...L. XI, No. 3
...RCH 1950

Journal of the

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A·Ph·A MID-CENTURY *Convention*

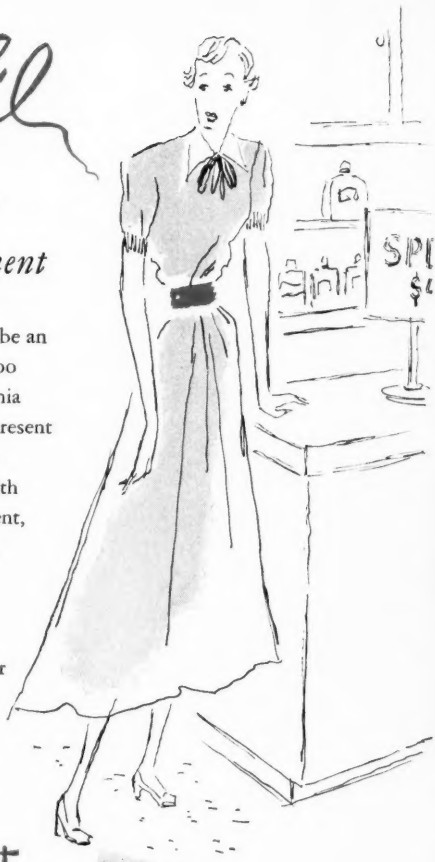
APRIL 30—MAY 5
HOTEL TRAYMORE
ATLANTIC CITY, N. J.

Practical Pharmacy Edition

MEET

Listless Lil

a valuable asset to your Prescription Department



Oh, no, you wouldn't *hire* Lil—but she may be an important source of profit to you. Lil—and too many like her—are victims of secondary anemia with symptoms of vitamin deficiency. They present a perplexing therapeutic problem—a problem that more and more physicians are solving with IBEROL. These capsule-shaped tablets are potent, easy to take, and economical for patients . . . *three a day is the average adult dose.*

Currently, ABBOTT is pointing out to *your* physicians the marked advantages of IBEROL in microcytic and macrocytic anemias, and for prophylaxis in pregnancy, old age or convalescence. Concentrated detailing and professional sampling will soon be reflected in IBEROL prescriptions across your counter. Be sure to stock IBEROL—in bottles of 100, 500 and 1000 tablets. Abbott

IBEROL®

(Iron—Vitamin B Complex—Liver Concentrate, Abbott)

Three Iberol tablets, the daily therapeutic dose for adults, supply:

Ferrous Sulfate, U.S.P. (representing 210 mg. elemental iron, the active ingredient for the increase of hemoglobin in the treatment of iron-deficiency anemia.)	1.05 Gm.

Plus these nutritional constituents:

Thiamine Hydrochloride	6 mg.
Riboflavin	6 mg.
Nicotinamide	30 mg.
Ascorbic Acid	150 mg.
Pyridoxine Hydrochloride	3 mg.
Pantothenic Acid (as Calcium Pantothenate)	6 mg.
Folic Acid	5.1 mg.
Liver Concentrate, N.F.	1.5 Gm.

New MACRON*

TABLETS—THE SAME POTENT FORMULA AS IBEROL, BUT WITH FOLIC ACID OMITTED

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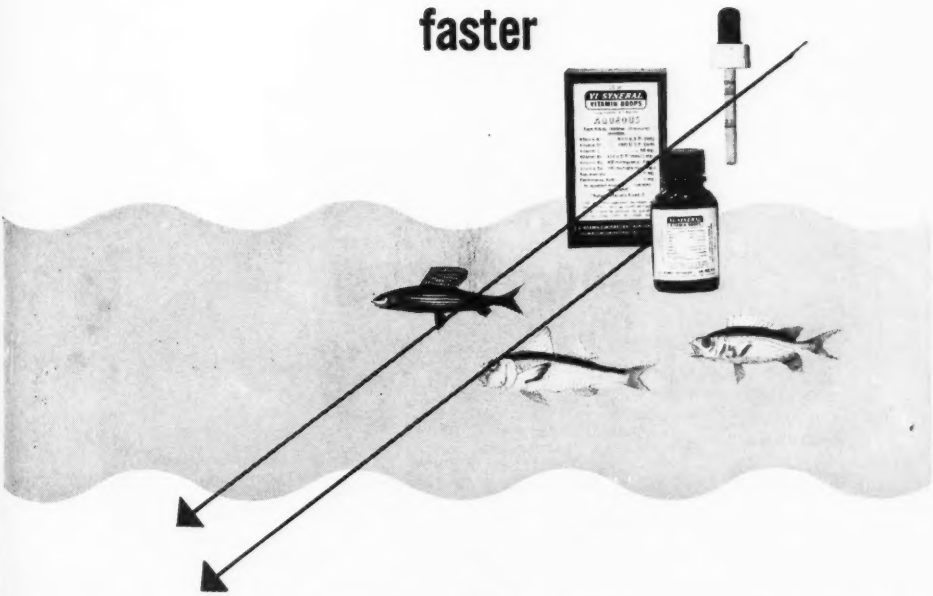
water gets the oil there faster



vi-syneral vitamin drops

CONTAINS 100% NATURAL VITAMIN D, THE SUPERIOR ANTI-RACHITIC

Great Advance in Vitamin Therapy . . . this oil-in-water solution developed by the Research Laboratories of U. S. Vitamin Corporation. Clinical literature* emphasizes the superiority of aqueous solutions of vitamin A compared to oily solutions (such as percomorph oils) . . .

500% GREATER ABSORPTION
85% HIGHER LIVER STORAGE
1/5th AS MUCH EXCRETION

Each 0.6 cc. provides:

VITAMIN A (natural) .	5,000 units
VITAMIN D (natural) .	1,000 units
ASCORBIC ACID . .	50 mg.
THIAMINE	1 mg.
NIACINAMIDE . . .	5 mg.
RIBOFLAVIN . . .	.4 mg.
PYRIDOXINE . . .	.1 mg.
PANTOTHENIC ACID	2 mg.

*Literature and samples upon request

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because it combines all 3
Pectin—enhances hydrophilic properties
Colloidally dispersed in a special adsorbent alumina gel
Purified Kaolin

KAOMAGMA® with PECTIN is effective in Control of Diarrhea

Relief is quick... Kaomagma with Pectin soothes and protects inflamed intestinal mucosa. Cramps and distention are promptly relieved.

Consolidates stools... checks fluid loss... restores patient's comfort.

Bottles of 12 fl. oz.

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WYETH Incorporated, Philadelphia 3, Pa.

to fit the pattern

Because the pattern of nutritional deficiencies is many sided . . . insufficiencies of a single factor being practically unknown . . . Winthrop-Stearns introduces

pluravit® drops

eight dispersible vitamins including Drisdol®

A stable, palatable, *dispersible* eight vitamin liquid for infants, children, and adults. Each 0.6 cc. supplies:

Vitamin A	**5000 units**
Vitamin D_2	**1000 units**
Vitamin B_1	**1 mg.**
Vitamin B_2	**0.4 mg.**
Vitamin B_6	**1 mg.**
Nicotinamide	**5 mg.**
Pantothenic acid	**2 mg.**
Vitamin C	**50 mg.**

The vitamins in PLURAVIT DROPS are contained in a citrus flavored vehicle designed for administration in orange juice, milk, cereals, chopped or strained meats, vegetables, fruits, soups and other foods. PLURAVIT DROPS are offered in bottles of 15 cc. with dropper graduated for approximately 0.3 cc. and 0.6 cc.

Also PLURAVIT PELLETS. Small, candy coated "laminated" pellets. Bottles of 30, 100 and 1000.

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Winthrop-Stearns INC. 170 VARICK STREET, NEW YORK, N. Y.

PLURAVIT, trademark reg. U. S. & Canada

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Cancer's danger signals

1. Any sore that does not heal
2. A lump or thickening in the breast or elsewhere
3. Unusual bleeding or discharge
4. Any change in a wart or mole
5. Persistent indigestion or difficulty in swallowing
6. Persistent hoarseness or cough
7. Any change in normal bowel habits

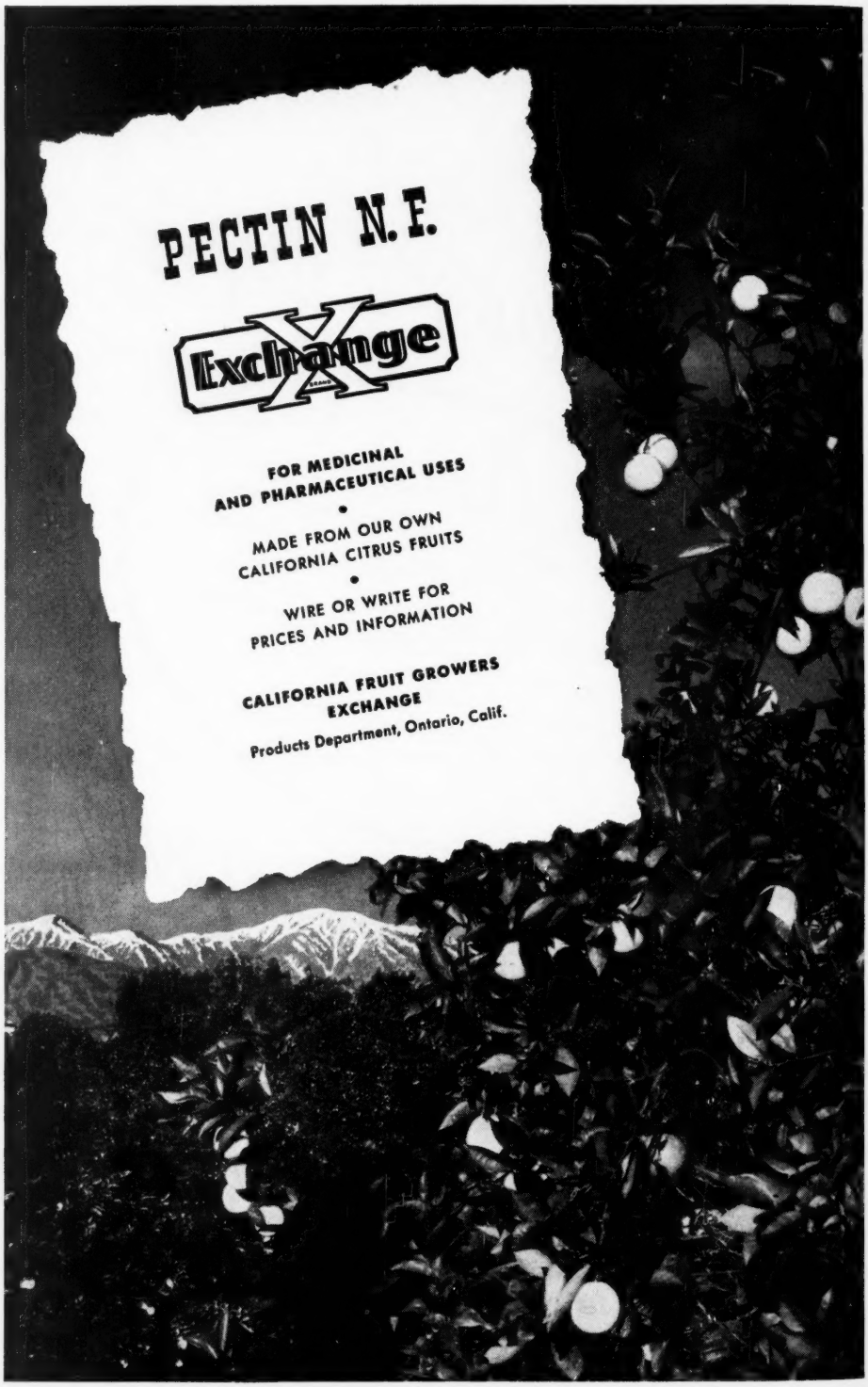
can be your safety signals

Cancer is curable if discovered early and treated properly

If any of these symptoms appear, see your doctor *at once.*

Write for the booklet about cancer. Just address your request to "CANCER"

AMERICAN CANCER SOCIETY, INC.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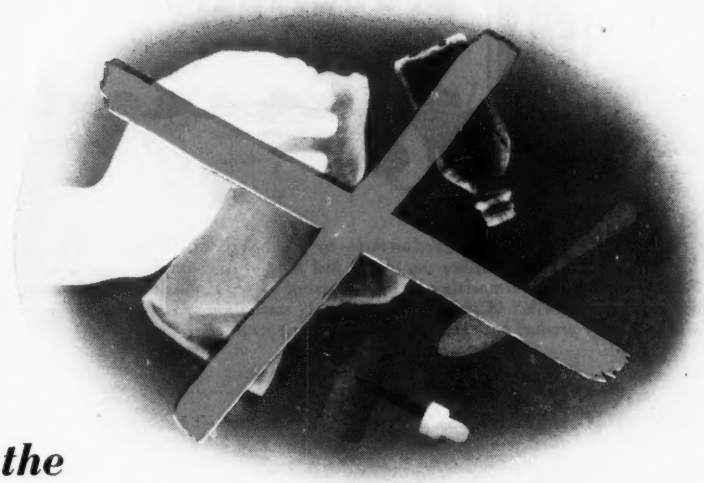


***"... the common cold is aborted or cured..."*[1]**

"... the common cold is aborted or cured when the allergic reaction is reversed before irreparable damage has been done to the respiratory mucous membrane."[1]

CORICIDIN

(antihistaminic—antipyretic—analgesic)

The chief constituent of CORICIDIN* is Chlor-*Trimeton** Maleate, probably the most potent antihistaminic in use today. Because of its extraordinary activity, Chlor-*Trimeton* is effective in remarkably small dosage—1/10 to 1/20 the dosage of other current antihistaminics. Side reactions, including drowsiness, are correspondingly rare. In addition to Chlor-*Trimeton*, CORICIDIN contains acetylsalicylic acid and acetophenetidin with caffeine, for analgesic and antipyretic effect.

Taken early, CORICIDIN is highly successful in favorably influencing the common cold. Even after the cold is established, CORICIDIN may reduce its severity and distress and help prevent spread of the infection by reducing sneezing.

PACKAGING: CORICIDIN tablets, tubes of 12; bottles of 100 and 1000.

CORICIDIN is available on prescription only.

1. Brewster, J. M.: U. S. Nav. M. Bull. *49*:1, 1949.

*T.M.

Schering CORPORATION • BLOOMFIELD, NEW JERSEY

CORICIDIN

SCHERING

New prescription products

Product descriptions may be clipped and filed on three- by five-inch cards. These are also indexed for quick reference in the "Monthly Drug Index" appearing on the last page of each issue. A product is described in this column for the information of pharmacists who may be asked by physicians to stock the drug, or who may receive professional inquiries about it. A listing does not imply evaluation or recommendation by the Association, nor does omission of any product have significance concerning its merit.

ALUDRINE HYDROCHLORIDE TABLETS

Description: Tablets (in two sizes) each containing 5 or 10 mg. of 1-(3,4-dihydroxyphenyl)-1-hydroxy-2-isopropylaminoethane hydrochloride.

Form Supplied: Packages of 100 and 1000 tablets.

Action: Bronchodilator.

Administration: Sublingually.

Source: Eli Lilly & Co., Indianapolis 6, Ind.

BOVIMIDE (Veterinary)

Description: A triple sulfonamide preparation each 100 cc. of which contains sulfathalidine (phthalylsulfathiazole) 6.8 Gm.; sulfamerazine 0.6 Gm.; sulfamethazine 0.6 Gm.; kaolin 10.0 Gm.; and pectin 1.5 Gm.

Form Supplied: One-pint bottles.

Action: Indicated in the control of intestinal bacterial infections in animals.

Administration: Therapeutic dose: 2 cc. per pound of body weight daily for 3 to 5 days; prophylactic dose: 1 cc. per pound of body weight for 3 to 5 days.

Source: Sharp & Dohme, Inc., Philadelphia 1, Pa.

CORENIL

Description: Tablets each containing the antihistamine methapyriline hydrochloride 25 mg.; extract belladonna 7.5 mg.; and racemic desoxyephedrine hydrochloride 1.25 mg. Available only on prescription.

Form Supplied: Bottles of 100 and 1000 tablets.

Action: Antihistaminic and nasal secretion depressant. Racemic desoxyephedrine hydrochloride has been added to compensate for the sedative effect of the antihistaminic drug, whereas the extract belladonna has been included to diminish the nasal secretion.

Administration: Orally; adult dosage 1 or 2 tablets every four hours for at least 3 doses.

Source: McNeil Laboratories, Inc., Philadelphia 32, Pa.

DELMOR NUTRIENT POWDER

Description: A protein-carbohydrate concentrate with essential minerals. Each 100 Gm. contains protein 50 Gm.; carbohydrate 20 Gm.; vitamins and minerals; and whole liver substance.

Form Supplied: 1-lb. and 5-lb. bottles.

Action: For the treatment of protein deficiency states.

Administration: Orally; suggested adult dose is 20 to 30 Gm. 3 or 4 times daily.

Source: Sharp & Dohme, Inc., Philadelphia 1, Pa.

DEPO-HEPARIN SODIUM

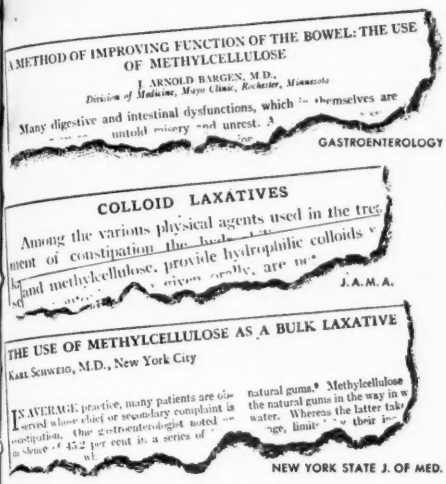
Description: Sterile injectable solution of heparin sodium; also prepared with vasoconstrictors as listed below:

Depo-Heparin	Each cc. contains
Heparin sodium (20,000 units)	0.20 Gm.
Gelatin	0.18 Gm.
Dextrose	80 mg.
Depo-Heparin with Vasoconstrictors	
Heparin sodium (20,000 units)	0.20 Gm.
Epinephrine hydrochloride	1 mg.
Ephedrine hydrochloride	10 mg.
Gelatin	0.18 Gm.
Dextrose	80 mg.

Form Supplied: 1-cc. cartridges with disposable syringe in packages of 1, 5, and 25.

Action: For anticoagulant therapy as indicated in thrombophlebitis and phlebothrombosis; in arterial occlusion; as prophylaxis against thrombosis after trauma to or surgery involving blood vessels; and for prevention and treatment of postoperative venous thrombosis.

(*Continued on Page 138*)


A METHOD OF IMPROVING FUNCTION OF THE BOWEL: THE USE OF METHYLCELLULOSE
J. ARNOLD BARGEN, M.D.,
Division of Medicine, Mayo Clinic, Rochester, Minnesota
GASTROENTEROLOGY
COLLOID LAXATIVES
J.A.M.A.
THE USE OF METHYLCELLULOSE AS A BULK LAXATIVE
KARL SCHWEIG, M.D., New York City
NEW YORK STATE J. OF MED.

All in favor of Cellothyl®

METHYLCELLULOSE PREPARED BY THE "CHILCOTT PROCESS"

to correct constipation

WHAT IS CELLOTHYL?

Cellothyl tablets contain *methylcellulose* specially prepared by the Chilcott process for use as a bulk constipation corrective.

It is similar to food cellulose which provides colonic bulk in the normal diet for normal bowel function.

WHY IS CELLOTHYL RECOMMENDED?

Because Cellothyl tablets can correct years of constipation in days.

Because the Mayo Clinic found that even life-long constipation due to bulk deficiency yields to Cellothyl in a week to 10 days.
Because Schweig reported "excellent" or "good" results in 92% of cases.
Because the J.A.M.A. declared that methylcellulose has "obvious advantages over the natural gums".

WHERE DOES IT ACT?

Cellothyl corrects constipation at the primary site of constipation—the colon.

Cellothyl passes through the stomach and upper intestines as a liquid. It thickens to a smooth gel in the colon, to provide bulk for a well-formed, easily passed stool. Bloating and distention are avoided.

WHEN DOES CELLOTHYL ACT?

Time is an important part of Cellothyl therapy.

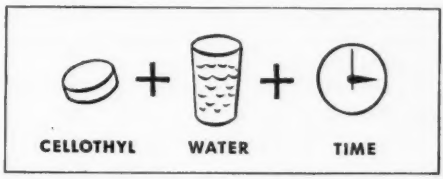
Results can be expected in the time it takes for Cellothyl to pass through the digestive tract to the rectum—usually 16 to 33 hours. In severe cases, a return to normal function may take 7 to 10 days.

HOW DOES CELLOTHYL PERFORM?

Cellothyl, by its water-retaining properties, converts the dry hard contents of the constipated colon into soft, moist easily passed bulk.

Adequate water must be taken with Cellothyl to facilitate its hydrophilic action. At least a full glass of water must be taken with each dose and fluid intake during the day must be high.

To correct years of constipation . . . or to prevent chronic constipation from developing:



Cellothyl is available in tablets in bottles of 50, 100, 500 and 5000.

CHILCOTT *Laboratories* DIVISION OF The Maltine Company

®REG. U. S. PAT. OFF. MORRIS PLAINS, NEW JERSEY

NEW PRESCRIPTION PRODUCTS

(*Continued from Page 136*)

Administration: Injected in the deep subcutaneous or superficial intramuscular tissue. *Should not be injected intravenously.*

Source: The Upjohn Co., Kalamazoo 99, Mich.

DEXAMYL

Description: Tablets each containing dextroamphetamine (Dexedrine) sulfate 5 mg.; amobarbital (Amytal) 32 mg.

Form Supplied: Bottles of 50 tablets.

Action: Provides symptomatic relief from mental and emotional distress.

Administration: Orally; dose of 1 tablet 2 or 3 times daily is suggested. *Caution:* Use with caution in the presence of marked hypertension. Dispense on prescription only.

Source: Smith, Kline & French Laboratories, Philadelphia 1, Pa.

DEXA-PYRAMINE

Description: Capsules each containing the antihistamine pyranisamine maleate 25 mg.; dextroamphetamine hydrochloride 2 mg.; aspirin 0.15 Gm.; caffeine 15 mg.; and phenacetin 0.15 Gm. Prepared also in injectable form with pyranisamine maleate 25 mg.; dextro-amphetamine hydrochloride 2 mg.; and phenol 3%.

Form Supplied: Capsules in 50's and 100's; injectable solution in 10-cc. vials.

Action: For diseases amenable to the antihistamines, including the common cold.

Administration: As indicated by the physician.

Source: Vitamix Corp., Philadelphia 6, Pa.

DI-PARALENE HYDROCHLORIDE

Description: Tablets of 25 and 50 mg. (two sizes) of the antihistamine chlorcyclizine hydrochloride (1-*p*-chlorobenzhydryl-4-methylpiperazine hydrochloride).

Form Supplied: Bottles of 100 and 500 tablets.

Action: For diseases amenable to antihistamine therapy. Stated to be of particular value where prolonged effect from 1 or 2 doses is needed.

Administration: Average adult dose is 50 to 100 mg. daily.

Source: Abbott Laboratories, N. Chicago, Ill.

DUOZINE SUSPENSION

Description: An orange-colored, fruit-flavored suspension designed for pediatric use, each teaspoonful of which contains sulfadiazine 0.15 Gm.; sulfamerazine 0.15 Gm.; and sodium citrate 1.5 Gm.

Form Supplied: One-pint bottles.

Action: Treatment of infections amenable to the sulfonamides.

Administration: Orally, dosage varies according to the age and severity of infection.

Source: Abbott Laboratories, N. Chicago, Ill.

ESORB

Description: Capsules of vitamin E (*d*-alpha tocopherol) in sorbitan fatty acid ester derivative. Each capsule contains 50 mg. vitamin E.

Form Supplied: Bottles of 100 capsules.

Action: Recommended in pregnancy, peripheral vascular and connective tissue disorders and menopause.

Administration: Orally, as prescribed by the physician.

Source: Wyeth, Inc., Philadelphia 3, Pa.

ETICYLOL LINGUETS

Description: Linguets each containing the estrogenic hormone ethinyl estradiol 0.5 mg.

Form Supplied: Bottles of 30 and 100.

Action: Estrogenic hormone therapy specifically in mammary carcinoma and prostatic carcinoma.

Administration: As directed by the physician; not to be used in pre-menopausal women.

Source: Ciba Pharmaceutical Products, Inc. Summit, N. J.

GUSTAMATE

Description: A mineral-free seasoning agent consisting of monoammonium glutamate; glutamic acid; and glycine.

Form Supplied: 1-oz. salt-shaker-type dispensers.

Action: Indicated in sodium-restricted diets.

Administration: Used as seasoning for foods in place of salt.

Source: Arlington Chemical Co., Yonkers 1, N. Y.

LACRIL

Description: An isotonic solution of methylcellulose and sodium chloride, with methyl paraben as a preservative. Solution has the approximate tonicity and viscosity of tears.

Form Supplied: 1-fl.-oz. bottles with dropper.

Action: Provides a moist surface to the cornea in the absence of normal lacrimal secretion. For use as replacement therapy for normal tears.

Administration: 3 to 4 drops in the eye, as directed by physician.

Source: Abbott Laboratories, N. Chicago, Ill.

MYRINGACAINE

Description: An ear drop containing ethyl aminobenzoate 4.0%; ephedrine hydrochloride 0.44%

(*Continued on Page 140*)

MR. PHARMACIST:

This advertisement, now appearing in leading medical journals, illustrates the type of sales-building advertising which is bringing this new and *different* salt substitute to the attention of physicians in your trading area. GUSTAMATE fulfills the requirements of a safe, effective salt substitute to an unprecedented degree—a fact which means increased business opportunities for you. Remember, GUSTAMATE is sold *through drugstores only.* Order from your wholesaler *now* . . . and get your share of profits on this steady repeat item. Retail price: $.89 per 1-ounce shaker; cost to you: $7.20 per doz.

The New, Mineral-Free COMPLETELY SAFE, *Salt Substitute*

GUSTAMATE

PATENT APPLIED FOR

BRAND OF GLUTACINATE

GUSTAMATE*—a unique, *nonmineral* seasoning agent—is completely safe for routine use in low-sodium diets. Its principal component is monoammonium glutamate, with balanced proportions of the amino acids, glycine and glutamic acid, established as harmless even when taken in quantities far in excess of the amounts provided in the average daily intake of GUSTAMATE.

Monoammonium glutamate is similar in flavoring effect to monosodium glutamate, long used in hotel and restaurant cuisines to bring out the natural flavors of foods. GUSTAMATE, however, contains *no sodium.*

Complete literature on request.

Features of GUSTAMATE

Ensures Safety

• Free from sodium • No other metallic ions • No disturbance of mineral balance • Contains substances normally participating in metabolic processes • Can be used safely over long periods.

Increases Palatability

• Brings out the natural flavors of foods • Enhances effect of other seasonings • Often suppresses undesirable taste features • Prolongs agreeable taste sensations • Stimulates appetite and salivation.

SUPPLIED: As white, crystalline granules in salt-shaker-type dispensers containing 1 ounce. Available at leading pharmacies.

*The word GUSTAMATE is a trademark of The Arlington Chemical Company.

Arlington **THE ARLINGTON CHEMICAL COMPANY** YONKERS 1, NEW YORK

NEW PRESCRIPTION PRODUCTS

(Continued from Page 138)

orthohydroxyphenylmercuric chloride 0.05%; in a glycerin and propylene glycol base.

Form Supplied: 1/2-oz. dropper bottles.

Action: For relief of pain associated with myringitis (inflammation of the ear drum).

Administration: By instillation into the external canal every 1 to 3 hours; tampon is used for retention.

Source: The Upjohn Co., Kalamazoo 99, Mich.

NEWCASTLE DISEASE VACCINE (Veterinary)

Description: Killed-virus, chick embryo origin.

Form Supplied: Bottles of 500 cc.

Action: For vaccination of chicks and adult fowl; stimulates resistance to Newcastle disease.

Source: Wyeth, Inc., Philadelphia 3, Pa.

PAS

Additional source of PAS (para-aminosalicylic acid) to those listed previously: Schenley Laboratories, Inc., New York 1, N. Y.

PENICILLIN POTASSIUM OINTMENT (Veterinary)

Description: Tubes with teat tube nozzles each containing 100,000 units of crystalline penicillin G potassium in an ointment base.

Form Supplied: In 7.5-Gm. tubes.

Action: For udder instillation in the treatment of acute or chronic mastitis due to *Streptococcus agalactiae.*

Administration: As directed by the veterinarian.

Source: Abbott Laboratories, N. Chicago, Ill.

PERCORTEN LINGUETS

Description: Linguets each containing desoxycorticosterone acetate 2 mg.

Form Supplied: Bottles of 30 and 100.

Action: Recommended in adrenocortical deficiencies such as occur in Addison's disease, certain forms of Simmonds' disease and orthostatic hypotension. Careful dietary adjustment of the salt intake is necessary.

Administration: Sublingually.

Source: Ciba Pharmaceutical Products, Inc., Summit, N. J.

PROKETUSS

Description: A syrup each 5 cc. of which contains the antihistamine methapyrilene hydrochloride 10 mg.; Propadrine (phenylpropanolamine) hydrochloride 15 mg.; potassium citrate 0.15 Gm.; chloroform 15 mg.; menthol 1 mg.; and alcohol 5%.

Form Supplied: Pint and gallon bottles.

Action: An expectorant syrup providing a hisamine antagonist plus the bronchodilating and vasoconstricting actions of phenylpropanolamine hydrochloride.

Administration: Orally; recommended adult daily dosage is 1 to 2 teaspoonfuls 1 to 4 times daily.

Source: Sharp & Dohme, Inc., Philadelphia 1, Pa.

SAVORETS (EPHEDRINE HYDROCHLORIDE)

Description: Flavored tablets each containing ephedrine hydrochloride 8 mg.

Form Supplied: Packages of 24.

Action: Pediatric use of ephedrine in asthma, allergies, and enuresis.

Administration: Orally, as prescribed by the physician.

Source: Eli Lilly & Co., Indianapolis 6, Ind.

STOLIC and STOLIC FORTE TABLETS

Description: Stolic: Tablets each containing mannitol hexanitrate 15 mg.; rutin 20 mg.; and vinbarbital (Delvinal) 30 mg. Stolic Forte: Tablets containing a larger dosage of mannitol hexanitrate (30 mg. per tablet).

Form Supplied: Bottles of 100 and 1000 tablets.

Action: For the control of essential hypertension through the vasodilating effect of mannitol hexanitrate and the sedative effect of vinbarbital. Rutin is present for its effect in decreasing abnormal capillary fragility.

Administration: Recommended adult dosage of both tablet sizes is from 1 to 2 tablets at intervals of from four to six hours.

Source: Sharp & Dohme, Inc., Philadelphia 1, Pa.

THEPTINE

Description: A flavored elixir each 5 cc. of which contains Dexedrine (dextro-amphetamine) sulfate 2.5 mg.; thiamine hydrochloride 5.0 mg.; riboflavin 0.45 mg.; and niacin 6.7 mg.

Form Supplied: 12-oz bottles.

Action: Anti-depressant and nutritional elixir particularly designed for the aged.

Administration: One teaspoonful 3 times daily after meals. To be used with caution in patients hypersensitive to syrupathomimetic compounds; in cases of coronary or cardiovascular disease which contraindicate vasoconstrictors; and in the presence of marked hypertension.

Source: Smith, Kline & French Laboratories, Philadelphia 1, Pa.

Oral Penicillin

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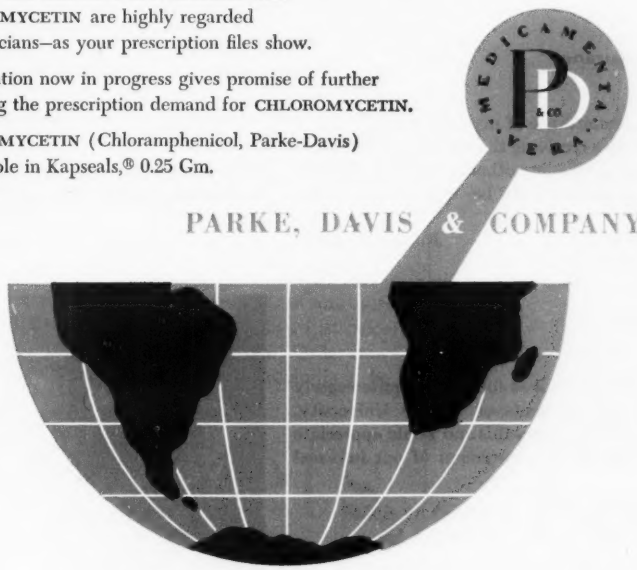

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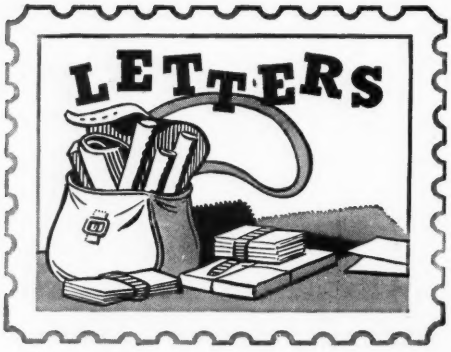

Requests New Drug Information and Samples

Sirs:

May I suggest urging all A. PH. A. members to request pharmaceutical manufacturers to provide pharmacists with full information concerning new prescription products. Also, to request manufacturers to provide pharmacists with at least one package of new pharmaceuticals.

Since manufacturers amply supply physicians with samples of new preparations, I believe that the manufacturers could easily supply pharmacists with one package for filling "that first prescription." In this way, pharmacists will be prepared to meet promptly the needs of the patient.

Louisville, Ky. WILLIAM B. ZUBROD

Journal "Insurance"

Sirs:

I hope this remittance of my 1950 dues arrives in time to insure my receiving the JOURNAL this month.

Let me say, as so many others have said, "it is an honor and a privilege to be a member of the A. PH. A."

Columbus, Ohio JOSEPH H. KERN

Eager Readers

Sirs:

Your JOURNAL is looked forward to quite eagerly by all pharmacy students of Temple University. The Galen Society realizes this and would appreciate your publishing an announcement of our informal dance:

"Bella Donna Ball"—March 18, 1950
John Bartram Hotel—Philadelphia

I'm certain many of our alumni and friends will be interested in the news. Thank you for helping us tell it.

Philadelphia, Pa. FRED GABLE

Legrand Prize Project

Sirs:

A note in your January, 1949, issue on the activities of the Puerto Rico Branch refers to a prize named "Legrand." The prize does not exist yet, it is a project of the Colegio de Farmaceuticos de Puerto Rico. I wish to make clear that if the prize bears the name "Legrand" it is not in my honor, but to honor my father, J. Federico Legrand who was the first professor of pharmacy when the College of Pharmacy of the University of Puerto Rico was founded in 1913–1914.

Will you please correct the information and excuse me for overlooking the note and not correcting it in due time. I noticed it in looking over the index of the AMERICAN PHARMACEUTICAL ASSOCIATION JOURNAL when I was putting in order my 1949 periodicals.

Santurce, Puerto Rico ADOLFO F. LEGRAND

Cooperation from State Association

Sirs:

I certainly like the Heart information material that came this morning. It is more effective than any prepared in the past. I will be happy to use some of this material in our monthly publication.

Utah Pharmaceutical Association
EARLE F. GARDEMANN,
Secretary

Swedish Chief Pharmacist Visits A. PH. A.

Sirs:

It was a very great pleasure for me to make your acquaintance and . . . to discuss problems of common interest in various fields of pharmacy. I sincerely hope that we will meet again.

I thank you for the luncheon with some of the prominent personages in American pharmacy. I enjoyed meeting them very much.

Stockholm, Sweden BÖRJE ALM
Chief Pharmacist of the
Swedish Defense Forces

Left to right: Commander W. Paul Briggs (MSC) USN; Robert P. Fischelis, A. Ph. A. Secretary; Glenn L. Jenkins, A. Ph. A. President; and Lt. Colonel Börje Alm

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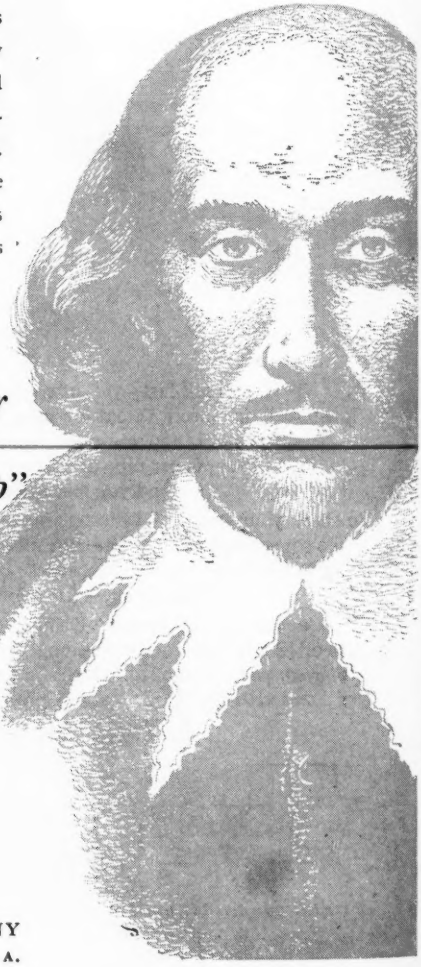
The ancient Shakespearean classic which follows may well be given modern connotation. In every field of human endeavor are to be found two elements: the noisy, blatant, clamorous variety that does no more than fulminate temporary excitement, and the sedate, placid, dependable type that marches steadily onward year after year, making daily contribution to the cause it champions. In this latter classification is the Lilly Policy. The Lilly Policy supports the function of the retail druggist, recognizes him as an indispensable factor in medical care. Like Shakespeare's chronicle of the deep water, the drug store "runs smooth" that governs its operations by the principles of the Lilly Policy.



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Journal of the

AMERICAN PHARMACEUTICAL ASSOCIATION

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MARCH, 1950

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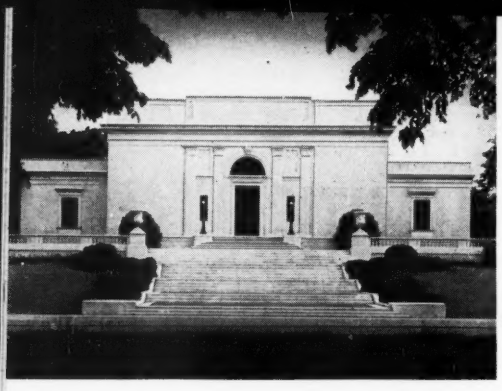

STRAIGHT FROM HEADQUARTERS

By *ROBERT P. FISCHELIS*, Secretary
AMERICAN PHARMACEUTICAL ASSOCIATION

Rating Schools of Pharmacy

WHEN the revised standards of the American Council on Pharmaceutical Education were promulgated at the 1948 conventions of the American Association of Colleges of Pharmacy, the National Association of Boards of Pharmacy and the AMERICAN PHARMACEUTICAL ASSOCIATION, agreement was reached to rate all accredited colleges of pharmacy under the classification of "A," "B," "C" and "Y." Colleges showing no important deficiencies in comparison with the requirements for accreditation were to be rated as class "A" schools.

Colleges having deficiencies that could be corrected promptly by administrative action were to be rated as class "B" schools.

Colleges having deficiences which would take considerable time and effort to correct were to be rated as class "C" schools and such institutions were to be given a period of three years in which to correct deficiencies or show cause why they should not be dropped from the list of accredited schools.

Newly established colleges having at least two years of their four-year curriculum accredited were to be rated as class "Y," which is a temporary rating, using the designation "Y-2" or "Y-4" to indicate the number of years of the curriculum which had been accredited. A class "Y" college which does not apply for full accreditation or, if it applies for full accreditation, does not meet all requirements to bring it into class "A" within one year after the full four years of the curriculum are in operation, would be required to show cause why it should not be dropped from the accredited list.

This accreditation procedure has been followed by the Council in reviewing the reports of recent inspections which have been made after visits to these institutions by representatives of the Council with Dr. E. C. Elliott, Acting Director of Educational Relations of the American Council on Pharmaceutical Education.

There has been some speculation in the pharmaceutical press as to the number of institutions which have been classified as "C" but it should be remembered that while individual institutions are being notified of the results of inspections and the action of the Council with respect to their accreditation, it has been decided not to make public a list of accredited colleges of pharmacy with their classifications until all of these institutions have been visited and rated by the Council.

This is likely to take all of the balance of 1950 and may continue well into 1951. Accordingly, there will be no published list of accredited colleges classified as "A," "B," "C" and "Y" until the entire job of rating has been completed. This cannot be accomplished until all of the institutions have been visited but it is the only fair procedure under the circumstances.

Therefore, rumors as to the classification of this or that institution should be ignored and until the Council announces the ratings it should be understood that colleges of pharmacy will continue to be listed either as accredited colleges or not at all.

Whenever the ratings of the various schools are published it should be remembered that every school receiving a rating is an accredited college of pharmacy. There

will, of course, be nonaccredited colleges. It is not expected that they will appear on the list of the American Council on Pharmaceutical Education.

It is unwise and unnecessary for boards of pharmacy to require by law or by rule that applicants for licensure as registered pharmacists must be graduates of class "A," class "B" or class "C" schools. The proper requirement should be that they must be graduates of *accredited* colleges. When a school is so far below the standards of the Council that it cannot be accredited, it should be discontinued or at least prospective students should be advised that the Council has not seen fit to accredit the institution and, therefore, the graduates of such an institution would not be accepted for registration in the various States.

The principal objective of classification of colleges of pharmacy into "A," "B" and "C" is to stimulate the authorities in these institutions to bring their work and their facilities up to the full minimum standards of the Council, at least. The classifications "A," "B" and "C" are degrees of accreditation and it is the hope of the Council that in the course of a relatively short time there will be only class "A" schools. When that time comes, it may be necessary to have several grades of class "A" schools based upon the facilities to do graduate work, the provision of undergraduate education of a highly superior character and supplying special services in addition to a good quality of pharmaceutical education.

In his article on Accrediting Procedures, on page 168, Dr. E. C. Elliott discusses the construction procedures of the American Council on Pharmaceutical Education and calls attention to its dual function of "policing" and advising educational institutions.

The American Council on Pharmaceutical Education has won acclaim among critics of accrediting agencies because of the sane and sympathetic approach which it has made to the problem of accrediting colleges of pharmacy. This should not be interpreted to mean that the Council is weak-kneed in its application of the standards but rather that it is cognizant of the long way which pharmaceutical education has come in a relatively short time and that it is anxious to elevate the standards of all schools to a minimum of which the entire profession can be proud.

Proposed Revision of By-laws

WHEN George A. Moulton was president of the American Pharmaceutical Association he recommended in his presidential address that a committee of six members be appointed to study the present form of organization of the Association and bring in recommendations for changes in the Constitution and By-laws which would meet some of the criticisms that had been voiced from time to time.

This committee consists of two members appointed by the Council (Messrs. Beal and Christensen); two appointed by the House of Delegates (Messrs. Muldoon and Darnell) and two appointed by the Association at large (Messrs. Moulton and Webster). It has held a number of meetings over a period of several years and has carefully reviewed the Association's Constitution and By-laws as well as the By-laws of the Council, the House of Delegates and the Sections.

At the Jacksonville Convention the committee presented a revised Constitution, all but one Article of which was adopted, to become effective on June 1, 1950. The article on membership was referred back to the committee for further study and resubmission at the Atlantic City Convention. The committee has given attention to this article and it is printed in revised form on page 151.

The committee has also completed consideration of the By-laws of the Association and the revised proposals will be submitted to all members by mail so that they may be studied in advance of the convention.

In order to provide full opportunity for discussion and action on these By-laws, a special general session is being provided on the program of the 1950 convention for action on these By-laws without interfering with the regular program of the convention.

The American Pharmaceutical Association has developed from a small to a relatively large organization with a headquarters building and staff in the nation's capital. This transition has come about in the past 25 years within the framework of a Constitution and By-laws devised for its original form of organization. It is therefore time for some revision of the Constitution and By-laws. Whether the proposals now before the membership will accomplish the ends sought is a matter to which every active member should give thought.

WELCOME to the MID-CENTURY CONVENTION

IT IS A PLEASURE indeed to welcome every pharmacist and everyone interested in pharmacy to attend our mid-century Convention to be held in Atlantic City this year. Great problems face the profession. Their solution demands the best thought and action by each of us. A varied and interesting program awaits those who attend. The retail pharmacist, the hospital pharmacist, the teacher, the board member, the state association secretary, the wholesaler, the manufacturer, the research scientist, and every other individual with a special interest will find something of particular value; something to which he can contribute for the benefit of others, as well as something of value which he can take away.

Not the least of the values gained from attendance is the opportunity to become known and to know others who are active in the profession. You will meet many colleagues, you will gain new ideas, and you will gain the many benefits that come from visiting and working with others in the profession. Pleasure, constructive work, and an opportunity to serve the advancement of professional pharmacy await you at the Atlantic City meeting. We will expect you and we hope to see you there.

Glenn L. Jenkins

GLENN L. JENKINS, *President*

NOTICE OF PROPOSED CHANGES IN THE A. PH. A. CONSTITUTION

The Constitution of the AMERICAN PHARMACEUTICAL ASSOCIATION provides that every proposal to alter or amend it must be printed in the JOURNAL of the ASSOCIATION at least thirty days prior to the annual meeting.

Proposed amendments to the Constitution must be read in the first General Session of the annual meeting and may be balloted upon at a subsequent General Session. A two-thirds affirmative vote is required for adoption.

At the Jacksonville Convention the Committee on Constitution and By-Laws presented a revised Constitution, which is printed below. All of the Articles in this proposed Constitution were approved to become effective on June 1, 1950, with the exception of Article III, Membership.

Article III was discussed in some detail and objection was offered to the use of the term "Fellow." The ASSOCIATION voted to refer Article III back to the Committee on Constitution and By-Laws and the Committee of Six for further consideration. These Committees in a joint meeting have reviewed the Article in the light of the discussion at the Jacksonville Convention and now propose the following wording for this Article:

> **Article III. Membership.** This ASSOCIATION shall consist of active, junior, affiliate, and honorary members, and shall hold its meetings annually. Properly qualified active members may be designated as Fellows of the AMERICAN PHARMACEUTICAL ASSOCIATION. The qualifications for membership and Fellowship shall be as prescribed in the By-Laws.

Members of the ASSOCIATION are requested to take note of the proposal which will be submitted to the first General Session at Atlantic City and voted on at a subsequent session.

Amended Constitution as Submitted to the Jacksonville Convention*

Article I. Name and Seal. This Association shall be called the "AMERICAN PHARMACEUTICAL ASSOCIATION." The ASSOCIATION shall have an official seal.

Article II. Objects. The aims of this ASSOCIATION shall be to unite the pharmacists of America for the following purposes:

1. To improve and promote the public health by aiding in the establishment of satisfactory standards for drugs, and to aid in the detection and prevention of adulteration and misbranding of drugs and medicines, and to take such steps as an Association and in cooperation with other organizations as will assure the production and distribution of drugs and medicines of the highest quality.
2. To foster and encourage interprofessional relations to the end that pharmacists, physicians, and members of other allied professions may contribute to the promotion of the public health and welfare in fullest measure.
3. To improve the art and science of pharmacy by fostering the publication of scientific information relating to the practice of pharmacy, and by the preparation and distribution of publications which will record the progress of pharmacy and aid in the development and stimulation of discovery and invention and in interesting competent personnel in the practice of pharmacy as a career.
4. To provide a system of education and training in the art of pharmacy, calculated to produce competent personnel for all phases of the practice of pharmacy and the training of pharmacists.
5. To support a system of licensure and registration of pharmacists which will assure the availability of competent personnel to discharge the accepted functions of the practice of pharmacy and assure the availability of pharmacists and pharmaceutical service which will provide at all times for the distribution of drugs and medicines under the supervision of qualified pharmacists.
6. To develop, maintain, and enforce a Code of Ethics which will assure to the public the highest type of pharmaceutical service, safeguard the professional relations between medical practitioners, pharmacists, and patients, and develop intra-professional relations which will tend to uplift the profession scientifically, spiritually and morally.

Article III. Membership. This ASSOCIATION shall consist of active, junior, affiliate, and honorary members, and shall hold its meetings annually. Active members shall be designated as Fellows of the AMERICAN PHARMACEUTICAL ASSOCIATION.

Article IV. Headquarters—American Institute of Pharmacy. Implementation of the aims and objects of the AMERICAN PHARMACEUTICAL ASSOCIATION shall be accomplished through a headquarters organization established and housed in the American Institute of Pharmacy.

Article V. Officers. The officers of the ASSOCIATION shall be a president, two vice-presidents and an honorary president, who shall be elected for a term of one year, and a secretary, a treasurer and nine councilors, who shall be elected for a term of three years. The officers shall be elected as provided in the By-Laws and shall hold office until the installation of their successors.

Article VI. Organization. The functions of the ASSOCIATION are performed by the members through the agency of the General Sessions, the House of Delegates, the Council, the Sections, and the Branches, as prescribed by the By-Laws.

Article VII. Investment of Moneys and Funds. Funds of the ASSOCIATION, available for investment, may, with the approval of the Council, be invested by the Treasurer, in United States Government, State, Municipal, County, or other securities acceptable as security for postal savings deposits, and in such securities only.

Article VIII. Amendments. Every proposition to alter or amend this Constitution shall be distributed to the members at least thirty days prior to the annual meeting, either by direct mail or in the JOURNAL. Every amendment shall be read at the first General Session of the annual meeting, and shall be balloted upon at a subsequent General Session when, upon receiving the affirmative votes of two-thirds of the members present, it shall become a part of the Constitution. Any proposition to amend the Constitution for the purpose of permitting the expenditure of the permanent invested funds of the ASSOCIATION shall require a majority of seven-eighths of the members present for its passage.

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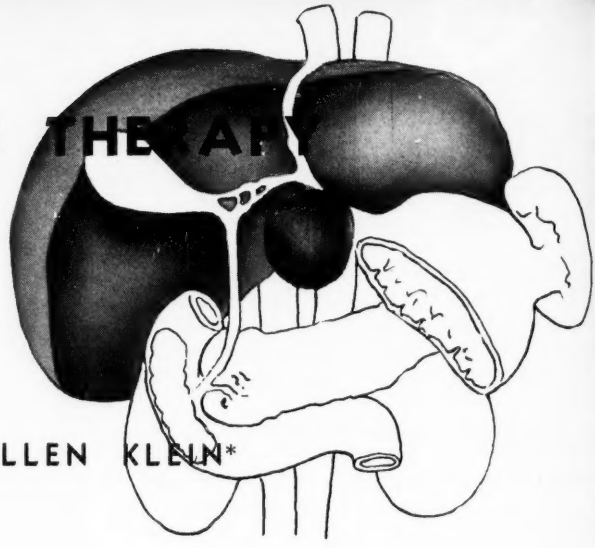
* This amended Constitution was adopted with the exception of Article III, Membership, to become effective June 1, 1950. The latter is to be voted on, as revised, at the 1950 Convention.

LIPOTROPIC THERAPY



by ALLEN KLEIN*

WHEN the doctor diagnosed a case of cirrhosis of the liver not so long ago it was tantamount to a death sentence. Most cirrhotic patients died within weeks, months, or a few years. Today the outlook for such patients, particularly where the cause is due to excessive alcohol intake and fatty infiltration (as the majority are), is more hopeful. "The recognition of the relationship between fatty infiltration of the liver and the subsequent degenerative changes," states Paul and associates (1), "has opened a new epoch in treatment of cirrhosis and related forms of liver pathology." This is also true in liver damage of nutritional deficiency, toxic hepatitis, functional liver impairment, infectious hepatitis, and liver damage due to industrial hepatotoxins.

As a result of extensive animal investigations and clinical experience, a definite pattern of intensive therapy in these liver disorders is now utilized in many medical quarters. This consists of:

1. Elimination of causes of the disease, if possible.
2. A high protein diet approaching the limits of the patient's tolerance; moderate to high carbohydrate intake; low fat.
3. Abundant intake of all vitamins, particularly those of the vitamin B complex.
4. Administration of specific lipotropic agents such as choline, methionine, and inositol.

Such combined, intensive therapy has, in the words of one clinician (2), "frequently arrested the progress of the disease, enabled the patient to return to useful activity and often restored him to good health and a sense of well being."

What are the lipotropic factors and how do they act? Basically, the lipotropic factors are substances which favor the normal metabolism of fats and are vital to hepatic function. Three of the most important lipotropic agents are choline, methionine, and inositol. As far back as 1932, Best and fellow workers (3) first described the effectiveness of choline in removing fat from the liver. Others have found that a deficiency of choline or methionine in the diet leads to an excessive deposition of lipids (fats) in the liver and eventually in cirrhosis in the rat, rabbit, and dog.

Choline is a component of the vitamin B complex and the lecithin molecule. It is involved in cell structure, neuromuscular function, and fat metabolism, among other metabolic processes. In animals "it has been demonstrated that a fatty liver can be produced by a diet free of choline and that the fatty degeneration thus produced can be cured by the administration of choline" (4). Most pharmaceuticals contain choline as the compounds choline dihydrogen citrate and choline chloride. The average daily dose is 2 to 3 Gm.

Methionine is one of the only two sulfur-containing amino acids, as available in casein and other protein-containing products. It is "an indispensable dietary component" (4). The American Medical As-

* Staff writer for U. S. Vitamin Corp. and Casimir Funk Laboratories, Inc.

sociation deems of great theoretical interest the fact that methionine added to the diet will prevent liver and renal damage which otherwise occurs when experimental animals are given certain deficient diets, particularly those low in protein and high in fat (4). Used in the body for the synthesis of choline, methionine is known as a choline saver and precursor. The average dose is 1 to 4 Gm. twice daily.

Inositol is a member of the vitamin B complex and has almost universal distribution in plant and animal tissues. It is closely related chemically to glucose. Experimental animals fed diets deficient in inositol develop a characteristic type of alopecia. The average dose of inositol is 1 Gm. three or more times daily.

How Lipotropic Agents Work

NOW how do the lipotropic factors act to mobilize and transport fat from the liver to body depots? The consensus of opinion finds that choline, methionine, and inositol transform the fats obtained from the diets into phospholipids, substances which are readily metabolized and absorbed into the blood stream. If the fats are not turned into phospholipids they are deposited in the liver which becomes enlarged and pale because of the surplus fat and its infiltration; eventually, if therapy is not instituted, the liver atrophies and shrinks. That, basically, is how the lipotropic factors help to prevent, retard, or reverse certain types of reparable liver damage. Steigmann (5) states that "While...the effect of therapy with lipotropic substances is considered to depend on the activity of these substances regarding fat removal, clinically one notices additional beneficial results."

Steigmann and associates divided 247 cases of cirrhosis of the liver, observed during ten years, into three groups. The first group consisted of 81 patients treated between the years 1937 and 1940 who received a diet high in carbohydrates, and low in fat and proteins. The second group, 119 patients, treated from 1941 to 1948, ingested a diet high in carbohydrates and proteins, and low in fat. The third group, 47 patients, treated since 1943, received essentially the diet of group two, plus lipotropic therapy. It was found that "The most recently used regimen, which consisted of a diet high in protein, high in vitamins, high in carbohydrates and low in fats supplemented by specific lipotropic substances proved to be most efficacious, as evidenced by lower mortality and morbidity rates. There was also a higher percentage of recoveries under this regime."

Morrison, one of the leading proponents of lipotropic therapy in cirrhosis of the liver, considers this method of treatment, together with proper nutritional care, "particularly successful" in the early or moderately advanced cases of fatty or alcoholic cirrhosis of the liver (6). Statistics vary, but approximately 50% of cirrhosis in the United States appears to be due to alcoholism. One careful study revealed that hepatic cirrhosis occurs about 7 times as frequently among alcoholics as among the general population. A fatty liver was found in over 90% of 250 patients who were autopsied and had a history of chronic alcoholism. In such alcoholic patients fatty cirrhosis of the liver definitely appears to be a nutritional disease (7).

The time element plays an important role in treating cirrhosis of the liver. Stiegmann (5) emphasizes the increased chance of improvement and recovery with early therapy. He says it is reasonable to conclude "that on the basis of known activity of lipotropic substances, patients who come under treatment before fibrosis has set in may have much better results from therapy with lipotropic substances than those who are seen later in the course of the disease when fibrosis has developed."

Nutrition and Cirrhosis

FUNCTIONAL impairment of varying degree and extensive pathologic changes in the liver (including fatty infiltration, necrosis and cirrhosis) have been produced experimentally by feeding a diet inadequate in certain nutritive elements. The *Journal of the American Medical Association* notes (8) that "Much experimental evidence is available indicating that injury of the liver may be produced by dietary deficiencies." They cite investigations showing that (protein) deficiency-induced necrosis or cirrhosis of the liver can be prevented by administration of choline, or methionine.

A substantial volume of clinical data, compiled for many years, proves the value of a

high protein diet in preventing extension of damage and in encouraging repairs in the injured liver. And the widely accepted value of carbohydrates in protecting the liver seems to be due primarily to its action in sparing protein stores. As for the need of vitamin B complex, the history of patients who have cirrhosis often indicates that B vitamins (as well as proteins) are insufficient. In fact, chronic alcoholism is almost always associated with a grossly deficient diet. Beams (9) feels that there is "a close analogy between cirrhosis of the liver and certain vitamin deficiency diseases." However, nonalcoholic as well as alcoholic cases of cirrhosis are often deficient in B factors.

Synergistic Lipotropic Action

As with many other types of therapy, such as analgesics, the lipotropic agents have been administered together with this thought—that they may complement each other therapeutically. Ridout and associates (10) observed that while choline and inositol are effective in themselves, their simultaneous administration produced results superior to that of either alone. Another clinician (11) writes, "It has been suggested that the lipotropic agent methionine could enhance in a synergistic way the lipotropic (or fatty-cirrhosis-preventing) activity of choline. Animal experiments revealed further that in hepatic damage, choline would largely prevent the cirrhosis but not the necrosis and hemorrhage. Methionine was found to effectively prevent both types of damage to the liver." Other investigators have commented on this more efficacious effect of combined lipotropic therapy.

Lipotropic Agents and Arteriosclerosis

THERE is widespread interest in the current application of lipotropic agents (choline, methionine, inositol) in the prevention and possible reversal of the arteriosclerotic process. Arteriosclerosis is progressive affection of the arteries in which fatty infiltration of these blood vessels occurs, followed by the formation of a fibrous overgrowth, degenerative changes, thickening of the walls, with loss of elasticity and contractility. The most important arteries attacked are located in the heart, brain, and kidneys. Arteriosclerosis is frequently observed in conditions such as coronary disease, diabetes mellitus, hypertension, myxedema, nephrosis, and xanthomatosis. Atherosclerosis is the most frequent type of arteriosclerosis—generally characterized by local fatty deposits in the arterial walls. Arteriosclerosis is a leading cause of death in the United States. Naturally, any therapy which promises any degree of effectiveness would immediately gain medical attention.

Here is how the lipotropic agents enter the arteriosclerosis picture. A high incidence of fatty degeneration of the arterial walls, and arteriosclerosis, is seen in people whose diets are rich in animal fats and cholesterol; and the condition is relatively rare in those who subsist on a low fat, low cholesterol diet. Cholesterol is an alcohol which is found chiefly in the bile, the brain, the seeds of plants, and the yolk of egg. Its physical characteristics resemble those of the fats.

As far back as 1910 experimenters showed that the arteriosclerotic plaque in human beings was largely made up of cholesterin and cholesterol esters. Today "arguments for a relationship between high blood cholesterol and the development of the arteriosclerotic plaque are rapidly gaining ground" (12). It would seem then, that intensive reduction of the intake of cholesterol and fats (which are important in the utilization of cholesterol) would efficiently lower blood cholesterol levels and prevent or reverse arteriosclerotic damage. This is true in many patients to a lesser or greater degree. However, since the body derives cholesterin from synthesis in the liver, as well as from the diet, the synthesized cholesterol presents a difficult problem.

Hayes (13) observes that the "discovery of certain lipotropic substances which will mobilize lipids (fats) from the liver, has suggested that these same substances might be effective in mobilizing cholesterol from atherosclerotic arteries . . . preventing the deposition of lipoids in the vessels of those individuals who are predisposed to hypercholesterolemia (high blood cholesterin levels)." Recent clinical and experimental investigations appear to bear him out. The new studies (14) indicate that lipotropic factors (such as choline, methionine, and inositol) "prevent or mitigate cholester-

formation in the vascular walls of rabbits and chickens," and seem to exert a decholesterolizing effect on atheromatous deposits in man, chickens and rabbits."

New studies warrant the conclusion that lipotropic agents exert a protective action against the development of experimental atherosclerosis in rabbits fed cholesterol, according to the *Journal of the American Medical Association* (15).

Administering lipotropic agents (choline, methionine, and inositol) in 111 patients with atheromatous disease (plus a low cholesterol diet, potassium iodide, and thyroid), Herrmann reports: "The patients with hypercholesterolemia, most of whom presented clinical evidence of atheromatous coronary artery disease, showed some definite lowering of blood cholesterols (10% to 20.5%) after six to ten weeks of treatment." Traditional methods would have required many months for half the effect achieved by lipotropic factors.

In a recent talk before the American Society for the Study of Arteriosclerosis, Drs. Morrision and Gonzalez (18) told of their treatment of coronary arteriosclerosis with choline. A series of 115 coronary thrombosis patients after recovery from the acute attack and discharged from the hospital were treated with the lipotropic agent. Choline was given to 52 patients for one year, to 35 for two years, to 28 for three years. Compared with control patients who did not receive lipotropic therapy, there was a significantly lower mortality rate in the patients taking choline. The investigators see promise in the use of lipotropic therapy in the treatment of that great killer, coronary arteriosclerosis and suggest further trial and study in the matter.

While it is true that a great deal of work remains to be done before specific therapy in control of arteriosclerosis in man can be established, leading clinicians feel that "In the light of present knowledge, regulation of the blood cholesterol appears to offer the most promising approach to the prevention of arteriosclerosis."

Since many patients with atherosclerosis are often affected by fatty degeneration of the liver (and vice versa), the lipotropic factors may arm the medical profession with a double-edged therapeutic weapon to fight two serious conditions simultaneously.

What about the toxicity of the lipotropic factors, choline, methionine, and inositol? Since these are food factors they are essentially nontoxic. Simultaneous administration of as high as six Gm. daily of either choline or inositol produced no evidence of toxicity. Occasionally, nausea will occur, but a reduction of dosage (with larger dosage reinstated later on) will usually overcome this barrier. And palatable syrups of the lipotropic are now available.

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DRUGSTORE OPERATIONS SURVEY

Work has started on the comprehensive survey of drugstore operations, under the sponsorship of the National Association of Retail Druggists. The general objective of the survey, which is to cost $150,000 is twofold: To provide the industry with complete statistics of storewide and departmental gross margin and overhead costs, and to assist retail druggists in serving their communities through improved facilities for distribution.

The survey is under the direction of Dr. Orin E. Burley, Professor of Marketing at the Wharton School of Finance and Commerce of the University of Pennsylvania. Twelve test stores, located in Philadelphia, Pa., Ohio, Tennessee, Minnesota, California, Texas, and New Jersey, will be used for the survey. These stores will be located in cities and towns of various sizes, and they will represent annual volumes of business ranging from $30,000 to $200,000.

Mr. John W. Dargavel, Secretary of the N.A.R.D., heads the Survey Committee, which includes representatives of all phases of the drug industry.

SURVEY FINDINGS ANALYZED

. . . a review of the findings and recommendations of the Pharmaceutical Survey for the practicing pharmacist . . . . . .

STATE BOARDS OF PHARMACY: ORGANIZATION, FINANCIAL SUPPORT, AND FUNCTIONS

THE sixth, seventh, and eighth articles of this series on the "Findings and Recommendations of the Pharmaceutical Survey" will deal with state boards of pharmacy. This one, the sixth, covers the organization, financial support, and functions of the boards.

Agencies of Self-Government for the Profession

Historically, the state boards of pharmacy were established and have operated as agencies for the self-government of the profession in the interest of the public health and welfare. As the Survey points out, the basic responsibility of this self-government has been that of determining and administering the standards for the legal right to practice. In other words, these boards are the legal agencies, created by our democratic society, to secure and to guarantee that quality and quantity of professional service essential for the maintenance of the national health standards. They are the key organizations where many of the problems of the profession are met and solved. Therefore, it is highly important that the personnel, policies, and practices of the boards should represent the highest standards of professional competence and ethics. It is also essential that the boards constantly take into practical consideration the effects of changing economic and social forces.

State Legal Codes

Each state has developed its own legal code. While these codes tend to conform to a general pattern, the different social and economic conditions within the individual states and the rate of response to changing conditions have resulted in widely varying requirements, practices, and efficiencies of performance. While this is inevitable under our governmental system, it produces many problems for the profession as a whole. Solutions of these problems are a definite obligation of the organized profession. Taking full cognizance of the existing problems, the Survey nevertheless is of the opinion that the great majority of state boards of pharmacy have earnestly endeavored to fulfill their responsibilities for protecting and upbuilding professional standards.

Board Qualifications and Procedures

The Survey collected current data and analyzed the laws and regulations relative to the number of members of the boards of pharmacy (three to nine),[1] the number of years of professional experience required for membership (three to ten), nomination and appointment (by governor in forty-three states), length of term (three to six years), ages, professional training, years of service, and per diem payments. In studying the ages and training of the board members, the Survey felt that the membership of the boards, in general, does not include a sufficient representation of younger men who have had the professional training now required of those qualifying for practice. Fifty-nine percent of the members were shown to be over fifty years of age and 63 percent have had no more than two years of training in a college of pharmacy.

Also considered by the Survey were the annual operating incomes; salaries of secretaries and inspectors; examinations, practical experience, and general requirements for licensure; requirements for permit for operation of retail establishments; procedures for the enforcement of various drug laws. The Survey findings and recommendations on "Examination for Licensure" will be reviewed in the April issue of THIS JOURNAL and those on "Practical Experience Requirement for Licensure" in the May issue.

[1] The Louisiana Board currently consists of twenty members.

Data explored by the Survey in connection with the state boards of pharmacy are set forth in fuller detail in the "General Report of the Pharmaceutical Survey," which is now in process of publication.

National Association of Boards

In discussing the boards of pharmacy, the Survey called attention to the contributions of the National Association of Boards of Pharmacy, which has served since 1904 as the principal forum for the discussion of requirements for pharmacy licensure, examinations and reciprocity procedures, as well as regulatory activities in the enforcement of pharmacy laws.

Modernization of Pharmacy Laws

Attention was also given by the Survey to the accomplishments of the Committee on the Modernization of Pharmacy Laws, created by the AMERICAN PHARMACEUTICAL ASSOCIATION in 1936 to make a comprehensive survey of existing pharmacy laws, to draft a uniform pharmacy act, and to serve as an "authoritative agency on pharmacy legislation." The Survey observed that the data which it had accumulated strengthen the reasoning and extend the conclusions of the Committee. The discontinuance of this Committee was probably premature in the light of the many remaining unsolved problems.

Survey Recommendations

1. The first recommendation was a proposal that the AMERICAN PHARMACEUTICAL ASSOCIATION, the National Association of Retail Druggists, and the National Association of Boards of Pharmacy arrange for the holding of a Convention for Pharmacy Legislation. The objective of this convention should be to draft a standard pharmacy act to serve as a guide to the several states for the progressive development of their own pharmacy laws and to provide for effective working relationships of state and national agencies. In effect, such a convention would extend and adapt the 1939 report of the Committee on the Modernization of Pharmacy Laws of the A. PH. A. It was further recommended that the members of the convention should represent the entire area of pharmaceutical activity and interests—professional, scientific, commercial, state, and national.

2. The second recommendation of the Survey was based on its great concern over the present trend in some state governments to place limitations upon the functions of the state board of pharmacy by assigning it a subordinate position within another unrelated unit of administration. The Survey therefore recommended that the Convention for Pharmacy Legislation prepare and publish a comprehensive statement supporting the position that the specialized functions performed by the board of pharmacy fully justify the establishment and retention of the state board of pharmacy as a clearly identified agency of government which is directly responsible to the chief executive authority of the State.

3. The third recommendation is that the Convention for Pharmacy Legislation act upon the following important questions in addition to those matters ordinarily included in a state pharmacy act:

A. Is the restriction of membership of the state board of pharmacy to those engaged in retail practice in the best interests of professional standards and advancement?

B. Is it possible to protect state boards of pharmacy from political interference by means of legal provision as to the qualifications and terms of appointment and conditions of service of members? The Survey observed that such interference is all too frequent and destructive of effective operating policies.

C. Can ways and means be developed for securing adequate financial public support for the state board of pharmacy which would enable it to effectively perform its legally prescribed duties and to continuously protect and promote the vital professional interests? In the last analysis the professional interests of pharmacy correspond to the vital health interests of the people of a state.

D. Must not the state board of pharmacy which is charged with the duty of the regular inspection and supervision of pharmaceutical establishments be provided with a sufficient number of professionally competent field agents to enable the board to fulfill properly its legal responsibilities?

» » Health Information Foundation Organized « «

Admiral William H. P. Blandy, U. S. N. (Ret.), addresses luncheon gathering at which formation of Health Information Foundation was announced February 7. At the speaker's table, in the usual order are: Dr. E. L Newcomb, National Wholesale Druggists Assn.; Dr. Frederick J. Cullen, The Proprietary Association of America; John G. Searle, G. D. Searle & Co., who is Chairman of the Board of the Foundation; Admira Blandy, President of the Foundation; James Hill, Jr., Sterling Drug Co.; S. B. Penick, Sr., S. B. Penick & Co.; and Walton M. Wheeler, Jr., of Eli Lilly & Co.

A NEW organization, known as the Health Information Foundation, which will seek betterment of the nation's health facilities through development and dissemination of factual information on the availability of these facilities, has been announced formally. The announcement was made by John G. Searle, president of G. D. Searle and Co., Chicago, and chairman of the board of the Foundation, at a press conference and luncheon meeting held at the Hotel Waldorf-Astoria, New York City, February 7.

As previously announced in an editorial appearing in the February issue of THIS JOURNAL, Admiral William H. P. Blandy, U. S. N. (Ret.), who resigned recently as commander-in-chief of the Atlantic Fleet and who was in command of the Joint Army-Navy Task Force which exploded the Bikini atom bomb, will serve as president of the Foundation.

The Foundation, financed by members of the pharmaceutical, drug and allied industries, will seek to "encourage the mass distribution of all health facilities" by finding out where they are needed and what can be done to distribute them efficiently, Mr. Searle explained at the press conference. He emphasized that the Foundation will deal only in facts and that its charter prohibits it from "engaging in lobbying or in propaganda activities."

Admiral Blandy, outlining specific projects which the Foundation will undertake, said that one of its first operations will be "an inventory of available factual data on the nation's health facilities," especially in relation to population and its distribution.

"While this study is being made," he said, "another Foundation project will be special studies of 'marginal' areas—areas where there is reason to believe that health facilities are not as fully available to the people as we would all like to have them.

"Another of the Foundation's important tasks will be the conducting of pilot surveys of local health facilities. These will be made in a few typical areas and will serve as patterns by which communities may evaluate their own health situations and improve them where necessary."

Describing the Foundation's work as a

"job of road-building," Admiral Blandy said "we hope to create a two-way highway along which accurate and basic facts can flow to and fro between centers of information and centers of need."

Mr. Searle explained that the pharmaceutical, drug and allied industries were financing the Foundation because "they have a special interest in health" and no other industry is in a better position to undertake the task.

"They have played an important part in the development of this country's health resources," he said of the industries, "they have participated in the rise of our health standards and they are keenly interested, if only from a business point of view, in seeing that rate of progress maintained and, if possible, increased.

"They have a twofold reason for this interest. In the first place, we of the drug and allied industries are citizens. We want the best of health for ourselves, for our families and for the less fortunate. Therefore, as citizens, we want everyone to have the very finest of health facilities available to them, both professionally and financially.

"Secondly, we have seen our industry grow at a rate commensurate with the growth of the nation's health standards. For reasons which may be described as enlightened self-interest, we want the best of health for everyone."

Pharmacists to Have Role

In response to questions asked by representatives of the pharmaceutical press in attendance at the conference, Mr. Searle stated that membership in the Foundation was open to all who were interested in health activities. He also stated that plans are being developed for cooperation with national, state and local pharmaceutical associations and that retail pharmacists, in particular, would be supplied with the findings of the Foundation so as to enable pharmacists to disseminate information and to participate in local health movements.

In addition to the chairman and president, officers of the Foundation are:

Vice-presidents, James Hill, Jr., Sterling Drug Co., New York City, and Franklyn Bliss Snyder, president-emeritus, Northwestern University; Secretary, Dr. Frederick J. Cullen, Proprietary Association of America, Washington, D. C.; and treasurer, S. B. Penick, Sr., S. B. Penick & Co., New York City.

The Board of Directors includes: John H. Clough, General Electric X-Ray Co., Milwaukee, Wis.; John W. Dargavel, National Association of Retail Druggists, Chicago; W. L. Dempsey, Sharp & Dohme, Inc., Philadelphia; Howard B. Fonda, Burroughs Wellcome, Inc., Tuckahoe, N. Y.; Henry Griswold, Walgreen Company, Chicago; M. J. Julian, Better Vision Institute, New York; James J. Kerrigan, Merck & Co., Inc., Rahway, N. J.; Foster McGaw, American Hospital Supply Co., Evanston, Ill.; Dr. E. L. Newcomb, National Wholesale Druggists Association, New York; Norman Pritchard, Montgomery, Hart, Pritchard & Herriott, Chicago; Earl S. Retter, Eli Lilly & Co., Indianapolis, Ind.; George F. Smith, Johnson & Johnson, New Brunswick, N. J.; Faus F. Solon, Owens-Illinois Glass Co., Toledo, O.; Dr. Robert L. Swain, Topics Publishing Co., New York; and Fred Truitt, Southwestern Drug Corp., Dallas, Tex.

PHARMACISTS PROTEST PRESCRIPTION RENEWAL INTERPRETATION

More than 400 pharmacists attended a meeting called in San Francisco on February 15 to discuss the recent interpretation of the Food and Drug Administration with respect to renewal of prescriptions. Mr. Jack Creighton, past president of the Northern California Retail Druggists Association, was the chairman of the meeting, which was addressed by Dean Troy Daniels, Messrs. Joseph Swim, Harry Hind, Fred Bretta, Oscar McCraken, Henry Cain, Roy Warnack and Louis J. Fischl.

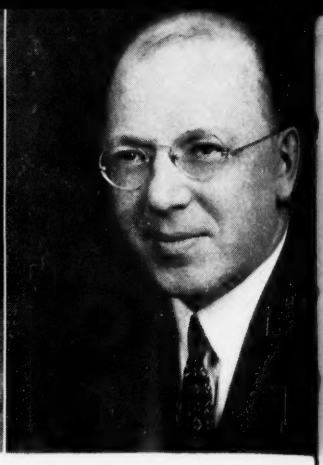
All of the speakers emphasized the seriousness of the interpretation, with respect to renewal of prescriptions, to practicing pharmacists, physicians and the public.

A message from Dr. Robert P. Fischelis, Secretary of the AMERICAN PHARMACEUTICAL ASSOCIATION, was read by Dr. Troy Daniels, Dean of the College of Pharmacy, University of California. In this message Dr. Fischelis pointed out that interpretation of the law and regulations was subject to change and that negotiations were proceeding between the Joint Committee on Federal Food, Drug and Cosmetic Regulations and Commissioner Dunbar and his staff of the Food and Drug Administration.

The meeting resolved to endorse every effort to arrive at a more satisfactory interpretation of the law and regulations or to support the amendment to the Federal Food, Drug and Cosmetic Act introduced by Congressman Durham, which would remove regulatory control of prescriptions entirely from the Food and Drug Administration.

Austin Smith, M.D.

Glenn L. Jenkins



Robert P. Fischelis

A. Ph. A. District Meetings

AN EXPERIMENT in bringing the activities of the AMERICAN PHARMACEUTICAL ASSOCIATION to its members at convenient locations was carried out January 30 in Chicago and January 31 in St. Louis, where District Meetings of the ASSOCIATION were held at the Palmer House and Statler Hotel.

A team of speakers including President Glenn L. Jenkins, who presided at both meetings; Secretary Robert P. Fischelis; Dr. Austin Smith, editor of the *Journal of the American Medical Association;* Dr. Paul L. Wermer, assistant secretary of the Council on Pharmacy and Chemistry of the American Medical Association; Dr. Hugh C. Muldoon, former chairman of the A. PH. A. House of Delegates and dean of the Duquesne University School of Pharmacy; and Mr. Don Francke, director of the A. PH. A. Division of Hospital Pharmacy and chief pharmacist of the University of Michigan Hospital, furnished the program.

Both in Chicago and in St. Louis, the meetings were timed to begin promptly at 10:00 a.m. and to conclude at 4:00 p.m., with an intermission of two hours for a luncheon at which Dean Muldoon spoke.

The morning session in each city was devoted to a discussion of pharmaceutical affairs on a national basis and the activities of the A. PH. A. relating to national affairs. At the Chicago meeting, Dr. Austin Smith spoke on progress in the science of pharmacy, and at the St. Louis meeting, Dr. Paul L. Wermer spoke on the same subject.

Each afternoon session was devoted to a discussion of progress in the art of pharmacy with Mr. Don Francke presenting practical dispensing information, including the distribution of formulas for the extemporaneous compounding of ointments and solutions containing antibiotics, sulfonamides, vitamins and other new drugs.

Following the main program of the afternoon session, an open forum was conducted by President Jenkins, with the speakers of the day constituting a panel for the discussion and answering of questions handed in throughout the day by those in attendance.

Dr. Smith and Dr. Wermer, referring in their respective addresses to antihistamines, pointed out that while these drugs had been of some help in relieving symptoms of the common cold, they exercised no curative effect and exhibited some unfavorable reactions.

Both speakers disparaged the value of cold vaccines, except in rare instances.

They pointed out that the claims made for vitamin E in the treatment of heart disease and arteriosclerosis were exaggerated.

Tibione, the new European drug recommended for tuberculosis, was considered promising in its effects and less toxic than streptomycin.

Vitamin B_{12}, now recommended for perni-

cious anemia, is not yet considered suitable for replacement of liver extract.

It was pointed out that both favorable and unfavorable reports had been received on glucuronic acid for arthritis, and that this drug is still in the experimental stage.

The use of vitamin D for arthritis was said to be diminishing.

Both Dr. Smith and Dr. Wermer pointed to the importance of close cooperation between physicians and pharmacists in the development of the newer materia medica.

Dean Muldoon, in his luncheon addresses at Chicago and St. Louis, laid stress on the important position occupied by pharmacists in their communities as health educators and as "purchasing agents" for the people whom they serve in the matter of medical and drug supplies. He complimented those in attendance at these meetings for taking time to bring themselves up to date on the latest developments in scientific and practical pharmacy, so that they would be better able to serve their communities. Dean Muldoon also pointed to the great progress that has been made in the educational program for training pharmacists, and stressed the importance of adhering closely to the broad spiritual concepts of the pharmaceutical code of ethics.

President Jenkins, in his opening remarks, dwelt on the significance of pharmacy in programs for the development of medical care in urban and rural communities. He called attention to the progress in development of new drugs and establishing their adequate dosage forms through research in the laboratories of colleges of pharmacy and the drug industry. He also referred to the many and varied services which pharmacists now render as administrators of large manufacturing and wholesale enterprises, as well as in individual pharmacies strategically located to supply public services.

Dr. Fischelis, in speaking for the A. PH. A. called attention to the broad scope of the ASSOCIATION'S services to governmental agencies, and to practicing pharmacists in hospitals, retail establishments, and industrial organizations. He pointed out the importance of the longer and more inclusive curriculum, now in vogue in colleges of pharmacy, in preparing men and women for the larger responsibilities to which pharmacists are subject in the many new and varied positions they are being called upon to occupy.

Dr. Fischelis also told about the expansion of the headquarters staff, which now includes nearly 40 persons of varying talents and abilities, all striving to produce better publications, establish more efficient drug standards, give services to help pharmacists better their daily work, and to supply essential information to the medical and related professions.

In evaluating the results of these two District meetings, it has been concluded that the A. PH. A. should endeavor to conduct as many District meetings as possible each year at locations which would make it possible for those members of the ASSOCIATION unable to attend the annual conventions, to absorb the same spirit of the meetings and to profit by the accomplishments of the ASSOCIATION.

Local branches in Chicago and St. Louis cooperated with officers of the ASSOCIATION in making arrangements for these District meetings, and it is expected that other local branches may request the ASSOCIATION to conduct District meetings in their areas.

Hugh C. Muldoon *Paul L. Wermer, M.D.* *Don Francke*

WHAT'S HAPPENING IN THE MEDICAL CARE FIELD

SEVENTH in the A. Ph. A. series on national medical care planning, this article reviews the second session activities of the 81st Congress in this field and includes information on some of the planning at the state level that may have some national significance.

At the end of the second month of the second session, the Hospital Survey and Construction Act (enacted during the first session) is still the only major health care legislation that has become law. Partial action has been taken on the pending bills relating to federal aid for education of health personnel (S. 1453/H. R. 5940), for expansion of local public health units (S. 522/H. R. 5865), and for medical research (S. 2591), and final action is hoped for before the end of the session.

Senate committee hearings on three of the four omnibus health bills[1] and the Lodge[1] bill were completed during the first session. Early scheduling of new hearings by the House committee considering health legislation is anticipated. Three new bills introduced this session by Dr. Hunt, Mrs. Bosone, and Mr. Keating will also be considered and may affect the final draft of any legislation covering a national program of medical care.

The Hunt Bill

S. 2940, introduced by Senator Hunt who is a dentist from Wyoming, is designed to consolidate the government's health activities and to make available a program of prepaid national insurance on a voluntary basis to low income groups. A Department of Health of cabinet status established by this bill would be administered by a Secretary of Health who had been a professional health worker, active in the practice of medicine or dentistry or with broad experience in medical or dental education. One further qualification would be that the Secretary had held no office "of any nature in a political party organization." The Department of Health would also have an Under Secretary, subject to the same qualifications as the Secretary, and five assistant secretaries to head the Bureaus of Medical and Hospital Care, Public Health Practice, Children's Welfare, Research, and Staff Services. Except for the Assistant Secretary for Staff Services who would be experienced in the field of administrative management, the other assistant secretaries would be experienced health workers from the fields of medicine, dentistry, sanitary engineering, or public health.

Among its objectives the Department of Health would promote more adequate local public health care, including the training of the necessary personnel; coordinate and improve the government's health care and research activities; integrate the government program of care with non-governmental and voluntary agency planning; aid in improving the public health through federal assistance for training of professional personnel; provide relief in rural and other areas suffering through shortage of adequate facilities or personnel; and would administer a national medical care program.

Certain functions of existing agencies would be transferred into the new Department of Health, and the Public Health Service and the Food and Drug Administration would become a part of the Department.

The insurance features of the bill would not be available to people whose gross income exceeded $5000 a year and would be subject to a $5 deductible clause to discourage unnecessary visits to physicians or dentists. A national health insurance board composed of five members—one to represent hospital associations, one to represent dental associations, two to represent the public (who would be thoroughly trained in the field of health and accident insurance), and the Surgeon General of the Public Health Service who would represent the medical profession—would administer the insurance service.

Personal health services available under this insurance plan would include medical,

dental, home-nursing, hospital, and auxiliary services. Drugs would be provided under auxiliary services and only "prescribed drugs which are unusually expensive."

The Bosone Bill

Mrs. Bosone, Democrat of Utah, introduced her bill, H. R. 6766, to "establish a national health insurance program." This is a compulsory national health insurance bill similar to the insurance provisions of the Administration bill (S. 1679)[1] except for the unsual feature of a deductible clause providing for payment by the beneficiary of the first $50 cost of annual medical care and the first $25 cost of annual dental care. Another salient difference from S. 1679 is the provision of a termination date, as the plan would operate for a three-year trial period and would then be reviewed as to merit or defect and could be continued or terminated.

Financing of the plan would be through a 3% payroll tax with the possible addition of 1% of estimated total annual wages from the Federal treasury.

All workers, including the self-employed, who would be covered under the Amended Social Security laws would be covered under H. R. 6766.

General administration of the program would rest in the Federal Security Agency but control of the plan within each state would be in its own fifteen-member "health board." This board, named to four-year terms, would consist of six physicians, three dentists, two nurses, two hospital supervisors, and two pharmacists, appointed by the "State medical society having the largest membership in the state." Duties of this board would include setting fee schedules which would fit the individual state but would conform to F. S. A. regulations.

Services to be provided under this bill are defined much as they are in the Administration bill (S. 1679)[1] and provide, under medical and dental benefits, "such prescribed drugs as are unusually expensive."

The Keating Bill

Mr. Keating, Republican of New York, introduced his bill, H. R. 6819, to encourage voluntary participation in prepaid health insurance plans in order to "relieve the Federal government of the stupendous burden involved in setting up a huge medical bureaucracy and subsidizing all of our citizens for medical expenses." The bill provides simply for the direct deduction from income tax payments the premiums or subscription charges for health insurance. Deductions would be according to a sliding scale in relation to the subscriber's income.

Non-government Planning

From the state level, a cooperative health program was proposed January 30 by the Medical Society of New Jersey as a constructive approach toward solving the health problems of the nation. Expressing the belief that the "Government should seek to promote and supplement the efforts of free citizens (not to supplant or supersede voluntary action) whenever voluntary cooperative effort can meet the need," the New Jersey proposal lists the economic classifications of the people who require medical care. The twelve-point program includes provision for income tax deduction of premium payments; widening of benefits offered by prepayment plans; encouragement to all employers, including the government, to share the cost of prepayment insurance; and government support to professional schools for health personnel. According to the Medical Society, the program is tailored to fit the needs of the five economic groups: (1) not employed, but able to sustain full medical care cost; (2) unemployed; (3) medically indigent; (4) totally indigent; and (5) chronically ill.

Medical Care Information

Hearings in the House committee during this session will probably include information on the expansion and enlargement of services of such groups as the California Physicians' Service and the efforts of individual industries to join in providing more adequate care in this field. Undoubtedly, too, before the draft of any federal medical care legislation is final, the results of such surveys as that of the Brookings Institution[2] and the proposed activities of the Health Information Foundation[3] will have an effect.

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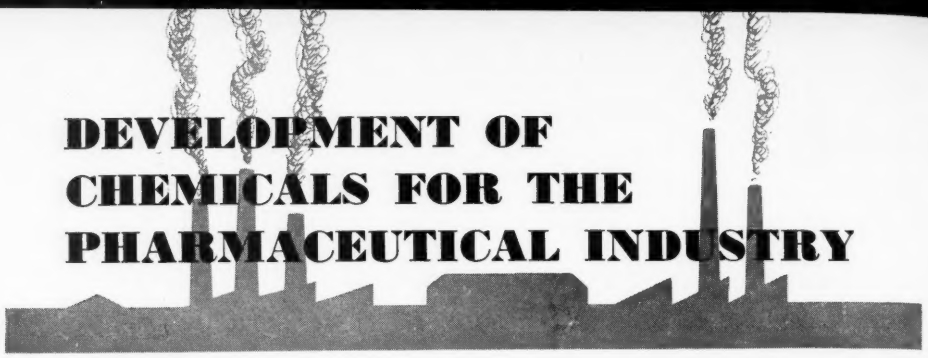

DEVELOPMENT OF CHEMICALS FOR THE PHARMACEUTICAL INDUSTRY

By W. H. Engels*

THE development of medicinal chemicals for the American pharmaceutical industry has undergone great changes during the time I have had the privilege to observe the situation, so to speak, from the inside. Before World War I, we depended almost entirely upon Europe for the introduction of new medicinals. Although a highly developed pharmaceutical industry existed, there were only a few companies manufacturing medicinal chemicals in this country, and such manufacture was confined almost entirely to well-established products such as morphine, quinine, bismuth salts, citric acid and other medicinal staples. For the introduction of new medicinals, very little had to be done other than to acquaint the medical profession with them by suitable advertising, since in those days the recommendations of their European colleagues were mostly accepted at face value by the American physicians.

1914 Dependence on Europe

The first major factor in bringing about a change in this situation was the start of the war in 1914, which found us without manufacturing facilities for such important medicinal chemicals as carbolic acid, salicylates, barbiturates, arsenicals and many others. It was, therefore, the task of the then existing chemical industry to develop processes and install equipment for the production of these badly needed chemicals. This task was accomplished during the years 1914–18 in spite of great difficulties, but naturally little work could be undertaken during this time to develop new and better medicinal products.

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It seems that in those days rather inadequate pharmacological facilities only were available in the industrial laboratories. However, the production of arsphenamine and its companion compounds, such as neoarsphenamine and sulfarsphenamine, required biological control, since these synthetic compounds did not lend themselves to purification by crystallization. Consequently variations in production lots existed which could not be readily detected by chemical or physical tests. The effective doses of these substances are very close to the toxic limit, and it was, therefore, essential that the finished products should be carefully controlled by animal toxicity tests. To accomplish this, a system of biological and clinical testing of these products was set up by the U. S. Government in cooperation with the various manufacturers who had entered this field, and pre-distribution certification of the arsphenamines by the government was inaugurated.

Development of Research Laboratories

After the war, thanks to the high tariffs on coal-tar products established by Congress, our growing chemical industry was able to maintain research laboratories which were then beginning to develop new and improved medicinal chemicals. A great impetus, of course, had been given to the imagination of the chemists by Ehrlich's classical studies which had led to Salvarsan as a cure for syphilis. Salvarsan was the first really successful synthetic chemotherapeutic substance—that is, a substance which will act in the human and animal body to destroy or at least inhibit the development of microbial organisms without injury to the host.

However, in those days of the early 1920's, progress in the development of new chemo-

therapeutic substances was retarded by the fact that the few pharmacological laboratories already established in the pharmaceutical industry were not yet capable of testing the newly synthesized products before turning them over to the clinicians. It also was difficult to find pharmacologists in the universities who were willing to test new products for industrial concerns. It was necessary, therefore, for the industry to expand its pharmacological laboratories, a process which, necessarily, took time.

Isolation of Vitamins

Another factor responsible for a considerable change in the development of medicinal chemicals was the advent of the vitamins, the hormones and, finally, the antibiotics. Although the existence of nutritional catalysts had been postulated during the 19th century, and although this idea was mentioned sporadically in the literature, the chemists were slow in taking up this challenge. This delay was, probably, partly due to the fact that the concentrations of these substances in natural products were of such low order that it was practically impossible for the chemists to make progress in isolating and elucidating these elusive products with the laboratory methods available during the first quarter of the century. However, due particularly to the efforts of Casimir Funk, the idea of the existence of so-called vitamins was established and picked up by the men working in the nutritional field. Progress was very slow until, through the development of microanalysis by Pregl and his pupils, a powerful tool was given to the chemists for their search for these elusive substances.

Such techniques and concepts were not only needed in the strictly chemical field, but corresponding micro-methods had to be developed also in the related sciences, such as biochemistry, physiology, pharmacology, microbiology, and others.

It was not until the late 20's and the beginning of the 30's that the first pure vitamins were isolated, namely thiamine, ascorbic acid, riboflavin and vitamin D. It is interesting to note that most of the credit for this achievement went to European scientists. However, it was left to American research men to synthesize vitamin B_1 for the first time and, after that, numerous vitamins such as pyridoxine, pantothenic acid, biotin, vitamins A, E and K and folic acid were for the first time isolated in pure form and synthesized in this country.

Early in the 1930's, German chemists, during their search for chemotherapeutic substances, discovered a dyestuff which they called prontosil and which was found to be remarkably effective in numerous diseases caused by bacterial infection. The Frenchman, Fourneau, soon discovered that one of the fragments that can be obtained from this dye, namely sulfanilamide, showed this same property This finding gave impetus to the synthesis of literally thousands of new compounds that were related to sulfanilamide, many of which were decided improvements over the parent substance for specific diseases.

Food, Drug and Cosmetic Act of 1938

Unfortunately, due to over-enthusiastic commercial promotion of some of these new compounds, fatal accidents occurred. Congress, therefore, in order to prevent the recurrence of such accidents, passed a law in 1938, which established and charged the Food and Drug Administration with the responsibility of certifying all new medicinals as to their safety in use before they could be marketed. This, of course, obliged all industrial concerns in the medicinal chemical and pharmaceutical business to re-orientate their methods for establishing new medicinals, in order to meet the requirements of the F. D. A.

Two Classes of Medicinal Chemicals

In discussing the development of medicinal chemicals, we can, in the main, divide the field into two classes. One class comprises the synthetic palliatives and chemotherapeutic substances that are the products of the imagination of man, as exemplified by the sulfa drugs, synthetic antimalarials, analgesics and antihistaminics. The second class takes in such substances as man has wrested from nature, such as the vitamins, hormones and antibiotics. These latter substances are also chemotherapeutic agents produced, however, by microorganisms, e.g., penicillin and streptomycin.

Although in many respects the development of these two types of medicinal chemicals follows similar lines, it differs in several important respects, so that the approach to final success is markedly dissimilar. If we

first turn to the problem of new synthetics, it appears clear that success can only be achieved by the close cooperation between a group of organic chemists, a qualified pharmacological laboratory and a medical department qualified to guide clinical investigations. It is necessary that the chemists are not only well versed in synthetic methods, but they also must have a good understanding of what influence variations of functional groups in a given molecule may exert on the physiologic activity of a substance. But the best efforts of such a group of chemists would be of no avail, unless it were supplemented by a strong pharmacologic research unit, capable of devising new and better testing methods for the screening of the chemicals against a variety of diseases, at the same time having sufficient chemical insight to be able to advise the group of organic chemists in which direction to exert their synthetic efforts.

Clinical Trials

After the combined efforts of chemists and pharmacologists have led to the discovery of a promising type of substance and after toxicological studies in a variety of animal species have shown that the materials could probably be given safely to human patients, the medical department arranges for a thorough investigation by competent clinicians. For this purpose larger quantities of the medicinals are usually required than can readily be prepared in the laboratory. Therefore, prior to an intensive clinical trial, the problem of preparing larger quantities is turned over to the applied research group for the development of a practical process by which the new substances can be prepared in the pilot plant in quantities sufficient for the clinical investigation. At the same time the biochemist will have to begin interesting himself in the problem, since the modern clinician is no longer satisfied with subjective clinical observations alone, but wants to know at what blood levels the substance is effective, how the material is excreted and what changes it undergoes in the animal and human body. Micro-analytical methods for these objective tests, therefore, have to be developed by the biochemist at the earliest possible stage. The pharmaceutical chemist also will need to pay attention to the new substance, as often the mode of application is of greatest importance and the clinicians may require preparations for oral as well as parenteral administration.

F. D. A. Approval

If, finally, the new substance has been proved effective clinically and the medical department feels certain that the marketing of the new product will be approved by the Food and Drug Administration, and if the economics have been verified by the market research department of the sales division, it is frequently still necessary for the chemical engineers to complete their studies before the process can be turned over to the engineering division for the design and installation of a plant for the economical production of the new compound. Since it often may take a year or more from this point until full-scale production can be achieved, the pilot plant must be in a position to supply sufficient quantities to keep the good will alive that has been created by the work of the clinicians and by the publications in the pharmacological and medical journals. Of course, before any material can be marketed, F. D. A. approval must have been obtained.

As early as possible during the development program, the physical and the pharmaceutical chemists will have to establish the stability on storage of the pure substance as well as of the various pharmaceutical forms. This information is necessary to assist pharmaceutical manufacturers in developing the required dosage forms for distribution of the new product.

The degree of perfection to which a manufacturing process for one of these new synthetic medicinals can be developed before it is necessary to freeze it, prior to the final design and installation of production equipment, depends somewhat on circumstances. Very often the new synthetics are simply improvements over already available medicinals, in which case there is no great urgency to come out with the new product at an early date, before a highly satisfactory process has been developed. However, where the new product fills an important gap in our materia medica, or when the field in which the new medicinal falls is highly competitive, it is often necessary to freeze the process at a stage which permits large-scale production, although process development may not be complete. This is,

of course, a costly procedure, as further development work often leads to important changes in equipment.

Nature's Medicinals

The situation is quite different, when we consider the other type of modern medicinals that owe their existence to the discovery of physiologically active factors in nature. Here the chemist no longer is privileged to select at will as starting materials, economical and readily available chemicals which he can transform by a few well-known reaction steps into a useful medicinal. In this case nature has prescribed the compounds and often has hidden them away in minute quantities in natural products, a circumstance which makes the task of the chemist and biologist a continuous hunt for the proverbial needle in the haystack. After the chemist has succeeded, with the help of the biologist, in isolating the natural product in pure form, he often finds it impossible to elucidate the structure, especially when the material is protein in nature. In the cases where he succeeds in determining the chemical structure, he sometimes finds the molecule is so complicated that it defies synthesis with our present knowledge of chemistry. In those instances where he succeeds in synthesizing the natural product, he usually finds that it takes a long series of reaction steps to make the new compound from known and available chemicals. Ten or more reaction steps are the rule. I know of one case where forty steps are required.

These natural products—I am particularly referring to the hormones, vitamins and antibiotics—become first known by some physiological activity they exert on man or animal, either by their presence or their absence. The symptoms are described in the literature, and scientists working all over the world in these fields become aware of the existence of these "factors," as they usually are termed in the begiming. From then on, the struggle for isolation and identification becomes highly competitive, with hundreds of laboratories often working simultaneously to solve one of these riddles of nature.

The Industrial Laboratory

In order to compete against this host of laboratories, many of which are supported by public funds or endowments, an industrial laboratory, which of necessity needs to show some return to the stockholders for the large risks in money required for this type of investigation, must be well organized. The days of the lone wolf are over. It takes many types of talent to bring such a program to a successful conclusion, and the personnel must be capable of working together harmoniously. The project must be well planned, and the work so integrated that all the necessary data are obtained at the right time.

In the case of the antibiotics, which by definition are chemotherapeutic substances produced by microorganisms, the work starts in the microbiological laboratory. After this laboratory has found an apparently new antibiotic activity, a group of organic chemists will start to extract the active substance, producing richer and richer concentrates, as determined by microbiological assays as well as by tests in animals. After the extraction work has reached a point where clinical tests seem indicated, the toxicity of the concentrate is determined to demonstrate the probable safety for application to humans. If clinical trials with such concentrates are successful, it may be possible, and even necessary, as was the case with penicillin and streptomycin, to come out on the market with a product still quite impure from the chemical point of view.

Further work of the organic chemists is directed toward isolation of the pure substances. At some point during this advance toward the isolation of the pure substances, another set of chemists will start research to elucidate the chemical structure, in which work they are greatly helped by the aid of the physical chemists. Their work is then followed by others who are particularly qualified to study the synthetic approach. Although none of the important antibiotics have been hitherto economically synthesized, this structural and synthetic work is never neglected, as the knowledge gained helps in many ways, as, e.g., to increase production by the microorganisms through addition of precursors to the fermentation broth, to modify the antibiotic by feeding variations of precursors and to improve the activity or the relative toxicity of the pure antibiotic by synthetic derivatives. By precursors are meant chemical compounds that

(Continued on Page 190)

*Accrediting Procedures in PHARMACEUTICAL EDUCATION**

By EDWARD C. ELLIOTT

Acting Director of Educational Relations, American Council on Pharmaceutical Education

I

FOUR years ago the leaders of American Pharmacy initiated a comprehensive study of pharmaceutical education, practices, and services. During the preceding twenty years there had developed an increasing awareness of the uncertain status of pharmacy as a recognized profession. This enterprise—The Pharmaceutical Survey—was carried out under the sponsorship of the American Council on Education, and with funds granted by the American Foundation of Pharmaceutical Education. Fate decreed that I was to become responsible for the direction of the Survey which now has been completed and the results published.

From the beginning of the examination of modern pharmacy as a profession it was evident that the controlling factors for upgrading were centered in the Colleges and Schools of Pharmacy. These Colleges and Schools constituted the foundation of the professional structure. They had to be viewed not merely as individual regional institutions, but as a collective mechanism serving national purposes.

II

NOTWITHSTANDING the recognized lacks and faults, as now organized and implemented, it is my unbiased conclusion that pharmacy has made more progress for the improvement and unification of its professional education and training than any other of the professions. It is a further conclusion that this advancement is chiefly the result of the influence of the American Council on Pharmaceutical Education—the agency established for the accreditation of the professional schools. This Council represents the cooperative effort of the profession for the conservation of the essential interest of the profession.

The Council was organized in 1932 and published its first set of standards for determining the acceptability of an institution for accreditation in 1937. After detailed personal examination by panels of the membership of the Council, the first accredited list was issued January 1, 1940. This list contained 54 institutions. Eleven others were added during the next five years. Five newly established colleges are now in process of accreditation—a total of 70.

III

IT SHOULD be noted that the American Council on Pharmaceutical Education consists of ten members, three representing the American Association of Colleges of Pharmacy, three, the National Association of Boards of Pharmacy, three, the American Pharmaceutical Association, and, one, the American Council on Education. Thus the major professional groups actively participate in the making of the policies and the conduct of the operations of the Council.

The Council performs a twofold function.

As is well known the licensure of individuals for the practice of pharmacy is controlled by the statutes and administrative regulations of each of the 48 states and the District of Columbia. The Council has gradually become the recognized national agency for setting the minimum educational and training standards for institutions qualifying individuals for admission to the profession. These standards constitute the basis for the reciprocal state recognition of licenses to practice.

The immediate administration of the

* A statement delivered at the Conference on Accreditation of the American Council on Education, November 15, 1949.

procedures of reciprocity is under the National Association of Boards of Pharmacy. At the same time the principle of reciprocity centers in the standards of professional preparation approved by the Council, in the form of the accredited institutions. Therefore, it can be seen that the Council serves in a distinctive quasi-legal capacity.

The Council performs a yet more important purpose—that of advising, stimulating, and assisting each of the professional training institutions in the raising of standards and the improving of the practices of the profession.

IV

AMONG the major results of the Pharmaceutical Survey were a series of recommendations relative to the American Council on Pharmaceutical Education. In order to enable the Council more effectively to fulfill its functions, for the continuous advancement of professional education and training, it was recommended that the Council be provided with a full-time educational officer who would serve as the liaison between the Council, the individual institutions, and the American Association of Colleges of Pharmacy. This officer has been established—the Director of Educational Relations. Through this director it is expected that the accrediting of institutions will represent something more than an intermittent slide rule evaluation. Rather, a genuine cooperative effort for the continuous educational improvement.

V

MY ALTOGETHER inadequate preparation for this part of this Conference did not fail to consider the current criticisms of accrediting agencies. This was not difficult. In my pre-pharmacy years I had been a participant in certain of the controversies which have been going on during the past twelve years.

In particular, I have recently reviewed the six outstanding evils of accrediting agencies listed in 1938 by the "Joint Committee on Accrediting" of the National Association of the State Universities and the Association of Land Grant Colleges. These were:

1. Too many accrediting agencies.
2. Their activities are destroying institutional rights and freedom, and they are assuming the power of governing boards.
3. Costs levied are excessive.
4. Too much duplication of agencies.
5. Standards are quantitative and superficial.
6. Outside groups dominate and refuse participation of educational groups in accreditation.

Here it is not my business to act as counsel for the defense of all accrediting agencies. Here, however, it is my responsibility to enter a general denial that any of the evils just referred to may be charged to the Council on Pharmaceutical Education. This Council represents the internal power and aspirations of the profession of pharmacy. It is not something external to the fundamental interests and ideals of American higher education and professional training. It has been and will continue to be a vitalizing, constructive force for the betterment of pharmaceutical education and practice.

Last night I chanced upon a paragraph in one of Somerset Maugham's essays. "The relations between individuals and society are like a roulette table. Society is the banker. Individuals sometimes win and sometimes lose, but the banker wins always."

If one were permitted to moralize one might say not the banker (accrediting agency) but the individual (institution) must win from any system of accreditation if the system is to continue to exist.

The American Council on Pharmaceutical Education considers itself to be an ally of the institutions of its accredited list. It is not too proud to be criticized. It will cooperate wholeheartedly in any effort for the simplification, better coordination, clearer understanding, and more economical operation of accrediting agencies. There is opportunity to smooth some of the wrinkles from the wisdom hitherto assumed by the theory of accreditation.

COLLOIDAL MAGNESIUM ALUMINUM SILICATE

as a SUSPENDING AGENT

by C. LEE HUYCK*

COLLOIDAL magnesium aluminum silicate (1) has been used for some time by the pharmaceutical industry as a hydrophilic suspending agent and binder for tablets and it was thought that the magma might have some advantages over bentonite magma as a suspending agent in calamine lotion and chalk mixture. Some studies on its use in these preparations have been recorded here.

The product is available in commerce in the form of white flakes under the trade name of Veegum[1] (1). It is non-toxic when taken internally and it has been found to have antacid properties. A 1% solution has a *p*H of 9.2. It forms stable oil in water emulsions with mineral oil. When vegetable oils are used the oil may be present as either the external or the internal phase depending on the proportion of the suspending agent used.

The suspension of colloidal magnesium aluminum silicate (2) does not seal in active ingredients or migrate toward the surface during drying. It acts as a hydrophilic binder for tablets. Tablets prepared with the suspension disintegrate rapidly and uniformly. In a 5% suspension particles form dispersions which are especially resistant to settling. This property is valuable in the preparation of lotions for suspending insoluble medicinal agents. Low concentrations in water form colloidal suspensions which are translucent while high concentrations form opaque viscous gels. The 5% suspension may be heated to boiling without affecting its stability. The suspension becomes lumpy upon freezing but returns to its original appearance on agitation. It is not subject to bacterial decomposition.

Experimental

Magmas of colloidal magnesium aluminum silicate of 5, 4, and 2½% were prepared by slowly adding magnesium aluminum silicate flakes to the required amount of water with continuous stirring until a smooth suspension was obtained. These suspensions were allowed to stand for twenty-four hours and then vigorously stirred again. The suspensions were substituted for 5% aqueous bentonite magma in two pharmaceutical preparations requiring suspending agents—namely, Calamine Lotion and Chalk Mixture of the U. S. P. The amount of product prepared in cc., the *p*H, the amount of water on the surface, and the per cent water separation are summarized in the following tables.

Table II shows that there is not much difference in water separation between 5% magnesium aluminum silicate and 4% magnesium aluminum silicate magmas. Neither is there a great deal of difference in water separation between 2½% bentonite and 2½% magnesium aluminum silicate magmas.

Table IV shows there is not much difference in the water separation between 5% magnesium aluminum silicate magma and 4% magnesium aluminum silicate magma. Five per cent bentonite magma is about as efficient as 2½% magnesium aluminum silicate as a suspending agent.

Viscosity is important in any study of this type. The relative viscosity of these preparations was taken by the following stand-

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[1] Veegum was furnished by R. T. Vanderbilt Co., 230 Park Ave., New York 17, N. Y.

Table I—Separation of Water on Calamine Lotion Prepared with Bentonite and Magnesium Aluminum Silicate Magmas After One Week at Room Temperature

		Amt. of Product in Cc.	Amt. of Water on Surface in Cc.	Water Separation, %	*p*H
Bentonite magma	5%	100	20	20	10.8
Bentonite magma	5%	100	15	15	10.75
Bentonite magma	4%	88	18	20	10.6
Bentonite magma	4%	90	20	22	10.5
Bentonite magma	2½%	90	19	21	10.8
Bentonite magma	2½%	88	20	22	10.7
MgAl silicate magma	5%	82	10	12	10.6
MgAl silicate magma	5%	80	8	10	10.7
MgAl silicate magma	4%	88	10	11	10.5
MgAl silicate magma	4%	85	8	9	10.6
MgAl silicate magma	2½%	90	22	24	10.9
MgAl silicate magma	2½%	92	20	21	10.7

ard method given in U. S. P. IX for liquid petrolatum (3): "Make a permanent mark about 2 cm. below the bulb of a 50-ml. pipette of the usual type and note the time in seconds required at 25° C. for the level of distilled water to fall from the upper to the lower mark as the liquid flows from the pipette. The time should not be less than 25 seconds nor more than 30 seconds for the pipette selected. Draw the liquid petrolatum to be tested into this pipette which should be clean and dry and note the time in seconds required at 25° C. for its level to fall from the same upper to the lower mark as used for the water. Divide the number of seconds thus noted by the number of seconds required for water to fall from the upper to the lower mark as above determined. The quotient indicates the viscosity. Distilled water at 25° C. is taken as 1."

Table II—Average Per Cent Water on Calamine Lotion After One Week at Room Temperature

Suspending Agent		Separation, %
Bentonite magma	5%	17
Bentonite magma	4%	21
Bentonite magma	2½%	21
MgAl silicate magma	5%	11
MgAl silicate magma	4%	10
MgAl silicate magma	2½%	23

The relative viscosities of the calamine lotions are recorded in Table V.

Table V shows that calamine lotion prepared with 5% magnesium aluminum silicate magma has a viscosity almost five times greater than calamine lotion prepared with 5% bentonite magma. Calamine lotion with 4% magnesium aluminum silicate magma has a little greater viscosity than calamine lotion prepared with 4% bentonite

Table III—Separation of Water on Chalk Mixture Prepared with Bentonite and Magnesium Aluminum Silicate Magmas After One Week at Room Temperature

		Amt. of Product in Cc.	Amt. of Water on Surface in Cc.	Water Separation, %	*p*H
Bentonite magma	5%	100	10	10.0	9.1
Bentonite magma	5%	100	12	12.0	9.0
Bentonite magma	4%	100	10	10.0	9.0
Bentonite magma	4%	100	8	8.0	8.9
Bentonite magma	2½%	100	40	40.0	8.7
Bentonite magma	2½%	100	38	38.0	8.6
MgAl silicate magma	5%	100	2	2.0	9.0
MgAl silicate magma	5%	100	2	2.0	9.1
MgAl silicate magma	4%	100	0	0.0	9.0
MgAl silicate magma	4%	100	1	1.0	8.9
MgAl silicate magma	2½%	100	12	12.0	9.3
MgAl silicate magma	2½%	100	11	11.0	9.2

Table IV—Average Per Cent of Water on Chalk Mixture After One Week at Room Temperature

Suspending Agent		Separation, %
Bentonite magma	5%	11
Bentonite magma	4%	9
Bentonite magma	2½%	39
MgAl silicate magma	5%	1.5
MgAl silicate magma	4%	0.5
MgAl silicate magma	2½%	11.5

Table V—Average Viscosity of Calamine Lotions Prepared with Bentonite and Magnesium Aluminum Silicate Magmas

Suspending Agent		Relative Viscosity Water = 1
Bentonite magma	5%	2.04
Bentonite magma	4%	2.00
Bentonite magma	2½%	1.82
MgAl silicate magma	5%	9.10
MgAl silicate magma	4%	3.18
MgAl silicate magma	2½%	1.59

magma, while calamine lotion with 2½% magnesium aluminum silicate magma has a viscosity almost equal to calamine lotion prepared with 2½% bentonite magma.

The relative viscosities of the chalk mixtures are recorded in Table VI.

Table VI—Average Viscosity of Chalk Mixtures Prepared with Bentonite and Magnesium Aluminum Silicate Magmas

Suspending Agent		Relative Viscosity Water = 1
Bentonite magma	5%	1.13
Bentonite magma	4%	1.13
Bentonite magma	2½%	1.04
MgAl silicate magma	5%	2.73
MgAl silicate magma	4%	1.36
MgAl silicate magma	2½%	1.09

Table VI shows that chalk mixture with 5% magnesium aluminum silicate magma has a viscosity almost three times greater than chalk mixture prepared with 5% bentonite magma. Chalk mixture with 4% magnesium aluminum silicate magma has a little greater viscosity than chalk mixture prepared with 4% bentonite magma while chalk mixture with 2½% magnesium aluminum silicate magma has a viscosity almost equal to chalk mixture prepared with 2½% bentonite magma.

Discussion of Results

Tables I and II show that in calamine lotion there is about 10% water separation when 4% magnesium aluminum silicate was used in contrast to about 17% water separation when the official 5% bentonite magma was used. Tables III and IV show that in chalk mixture there is about 0.5% water separation when 4% magnesium aluminum silicate was used in contrast to 11% water separation when the official 5% bentonite magma was used. Table V shows that calamine lotion has a relative viscosity of about 3 when 4% magnesium aluminum silicate was used in contrast to a relative viscosity of about 2 when the official 5% bentonite magma was used. Table VI shows that chalk mixture has a relative viscosity of about 1 when 4% magnesium aluminum silicate magma was used in contrast to a relative viscosity of about 1 when 5% bentonite magma was used.

Summary and Conclusions

1. Various strengths of bentonite and magnesium aluminum silicate magmas were tested as suspending agents in calamine lotion and chalk mixture.

2. When 4% magnesium aluminum silicate magma was used in calamine lotion, 10% water separated and the relative viscosity was 3 in contrast to 17% water separation and a relative viscosity of 2 when 5% bentonite magma was used.

3. When 4% magnesium aluminum silicate magma was used in chalk mixture, 0.5% water separated and the relative viscosity was 1 in contrast to 11% and a relative viscosity of 1 when 5% bentonite magma was used.

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Status of Cortisone and ACTH

A Report of the Council on Pharmacy and Chemistry of the American Medical Association

RECENTLY the daily press has contained numerous references to the treatment of rheumatoid arthritis and certain other diseases by the injection of an adrenal cortical hormone (cortisone, Kendall's Compound E, 17-hydroxy-11-dehydrocorticosterone) or by the adrenocorticotropic hormone of the anterior pituitary (ACTH), which stimulates secretion by the adrenal cortex.

The use of these preparations was first tried in 1948 by Hench and his associates at the Mayo Clinic. They reported a dramatic reduction in stiffness and pain and improvement of muscular and joint function in 14 patients.[1] The well-known observation that rheumatoid arthritis is often improved after pregnancy, jaundice, general anesthesia, or surgical treatment indicated that the disease could be influenced by phenomena which are primarily biochemical. The fact that the latter two procedures are known to stimulate the adrenal cortex prompted the Mayo workers to investigate the clinical efficacy of the aforementioned adrenal cortex and adrenal-cortex-stimulating preparations.

CORTISONE

Cortisone is one of at least 28 steroids that have been isolated in crystalline form from the adrenal cortex. This compound can be synthesized from the bile product, desoxycholic acid, but the method of preparation is long and the yield is small. Certain other materials, such as the steroids obtained from the African vine, *strophanthus sarmentosus* or from the Mexican yam, *dioscorea*, may eventually be usable as starting points in the synthesis. Much work remains to be done before either of these possibilities can be fully evaluated. Other steroids and mixtures of steroids from the adrenal cortex, as well as certain synthetic substances structurally similar to cortisone, are being investigated in a number of clinics.

ACTH

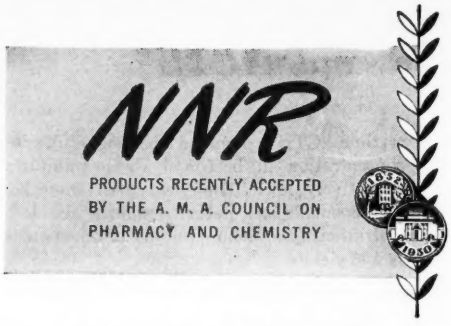
The pituitary adrenal corticotropic hormone (ACTH) is now under investigation in 56 clinics, where 45 diseases are being studied. It is not a pure chemical compound, and different lots appear to vary in biologic action. ACTH does, however, afford a powerful tool for penetrating experiments on the basic mechanisms of diseases which are favorably influenced by its administration. At the present time ACTH is prepared from hog pituitaries, the concentration in beef and sheep pituitaries being relatively low. The yield even from hog pituitary is small, each patient requiring the daily administration of the amount obtained from approximately 100 glands.

DANGERS OF OVEREMPHASIS

As is not uncommon when powerful new agents are discovered, the immediate value of these substances is overemphasized in the popular press. While it has been shown beyond doubt that cortisone and ACTH often provide prompt and dramatic relief in arthritis, gout, lupus erythematosus, myasthenia gravis, and other diseases, the improvement usually is maintained only as long as the administration of the drug is continued. Although chronic toxicity studies are far from complete, it has already been established that the continuous administration of either preparation over a long period often cannot be tolerated. At the present time, these preparations are available only in certain clinics where complete metabolic studies can be undertaken and the maximum use made of the limited quantities of the materials. The patients are selected only after they understand fully the dangers involved. When the administration of these drugs is discontinued there may be a rebound effect, the initial symptoms of the disease recurring with even greater severity than before.[2]

Another hazard in the use of either cortisone or ACTH is the general pituitary-adrenal disturbance which occurs during prolonged administration or with a relatively high dosage schedule. The rapidly developing clinical picture closely resembles that known as Cushing's syndrome. The picture is probably reversible if the administration of the drug is discontinued promptly on the appearance of these symptoms. The disturbance of pituitary-adrenal function is perhaps more readily seen with the use of cortisone, since it tends to inhibit the activity of both glands, while ACTH stimulates the adrenal. ACTH appears to have a depressant effect on the insulin-producing cells of the pancreas when used in high doses or for long periods[3] an effect which has been used to control non-Addisonian hypoglycemia in children.[4] Although the experiments to date have been extremely cautious ones, there is some evidence that continued administration of ACTH might result in irreversible diabetes mellitus, of a high insulin-resistant type. Hypertension has been also noted in persons treated with ACTH. Both agents have been responsible for the development of psychotic states and pigment deposition resembling that seen in Addison's disease.[5]

(*Continued on Page 192*)



Council descriptions of new drug products only are published regularly in THIS JOURNAL *as they are accepted. Rules upon which the Council bases its action appeared in the July (7:320) 1946 issue, and may be secured in pamphlet form upon request to the Secretary, Council on Pharmacy and Chemistry, American Medical Association, 535 N. Dearborn St., Chicago 10, Ill.*

ANNUAL MEETING OF THE COUNCIL ON PHARMACY AND CHEMISTRY

(an abstract)

The Council convened on Monday and Tuesday, Nov. 21–22, 1949, at the headquarters of the American Medical Association. Drs. Torald Sollmann and James P. Leake were re-elected chairman and vice-chairman, respectively.

Antihistamines

The Council discussed the use of antihistamines for the prevention of colds and the treatment of those ill with colds. After examination of available evidence, published and unpublished, the Council concluded that available evidence did not justify the current widespread promotional efforts for the use of antihistamines for the prevention and treatment of colds. The Council warned that experience was not sufficient to permit determination of the possible harmful effects following long-continued use of the antihistamines and that certain dangers were now known to be associated with their use; for example, drowsiness has been known to occur, which could introduce a dangerous factor for persons working with machinery and driving cars. The Council also recognized that such drugs would probably be taken in many instances in excess of the prescribed dose, which would increase the possibilities of harmful effect.

Several manufacturers and/or distributors of products accepted by the Council for inclusion in New and Nonofficial Remedies had made claims for the use of the antihistamines in the prevention and treatment of colds without prior approval by the Council. The Council voted to inform such manufacturers that these products would be deleted from New and Nonofficial Remedies unless the advertising was immediately corrected. The Council also voted to prepare a statement on the status of antihistamines for publication in the *Journal of the American Medical Association.*

Typhoid and Paratyphoid Vaccines

Reconsideration was given to the action taken by the Council at its meeting in November 1948 concerning the omission of mixtures of typhoid and paratyphoid vaccines from N. N. R. After reviewing available evidence, the Council concluded that the usefulness of such vaccines was not sufficient to warrant readmission to the book. In further consideration of typhoid vaccines the Council voted to reduce the dose recommended in N. N. R. by one half and to inform the manufacturers of this action.

Pertussis Vaccine

Because of reports reaching the Council concerning the incidence of nervous manifestations and sequelae from the use of pertussis vaccines, the Council voted to insert the following statement in N. N. R.'s description of pertussis vaccine:

"Encelphalopathic symptoms occasionally occur with whooping cough and, more rarely, with the use of the prophylactic vaccine. Such severe symptoms of the central nervous system have included convulsions and lethargy. They may be followed by mental or physical manifestations, sometimes permanent, or even by death."

The Council also voted to publish a request in *The Journal of the American Medical Association* to report to the Council office instances of serious reactions following the administration of pertussis vaccine and to gain from as many sources as possible information on this subject. The Council recognized that the average quality of vaccines on the market has been improved and may be improved further. It therefore expressed the belief that careful study should be given to reports of reactions.

Topical Penicillin Preparations

Because of the increasing instances of sensitization to penicillin preparations for local application, the Council voted that penicillin preparations marketed as liquids, ointments, and ophthalmic ointments be considered unacceptable for inclusion in N. N. R., that all such preparations currently accepted be omitted from the 1951 edition of N. N. R., and that there be inserted in the appropriate N. N. R. monograph a warning concerning the danger of sensitivity following the topical application of penicillin products.

The status of penicillin inhalation therapy was discussed, and the Council voted to instruct its Secretary to investigate the occurrence of reactions of sensitivity associated with the use of penicillin in aerosols, inhalators, and similar means of administration.

After discussion of over-the-counter sale of penicillin, the Council voted to declare that it is not in the public interest to release penicillin for over-the-counter sale. The reasons for the Council stand have been set forth in a letter which has been forwarded to the Commissioner of Foods and Drugs.

Pesticides

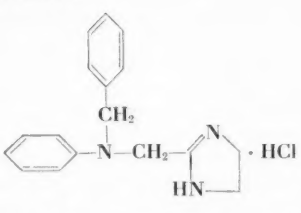
A report from the Joint Committee on Pesticides was rendered to the Council, and it was recommended that an expression of appreciation be extended to the members of the Joint Committee on Pesticides for their help in reviewing problems for the Council. It was also voted to appoint a permanent committee on pesticides and similar agents, to initiate the preparation of a series of informative articles for the medical profession and to undertake the preparation of a special publication in which information would be found on pesticides, their formulas, the purposes for which they are employed and the medical aspects of their use.

Pyridoxine

For some years the Council has accepted pyridoxine hydrochloride for inclusion in N. N. R. This drug was accepted for experimental purposes; claims have not been recognized. Now there are indications that the substance may have an important metabolic function, and a report on the possible usefulness of pyridoxine will be issued soon by the Council.

Consideration of pyridoxine raised the question of whether the Council should accept drugs for experimental use. It was concluded that a product should have demonstrated clinical usefulness before the Council accepts it and that the products in N. N. R. should be confined to those for which claims can be advanced and proved.

ANTAZOLINE HYDROCHLORIDE.—Antistine Hydrochloride (CIBA).—2-(N-Phenyl-N-benzylaminomethyl)imidazoline hydrochloride.—$C_{17}H_{19}N_3.HCl$.—M.W. 301.81.—The structural formula for antazoline hydrochloride may be represented as follows:



Actions and Uses.—Antazoline hydrochloride has the general action of the other antihistaminic compounds. Given orally its effect compares favorably with the effects of tripelennamine and diphenhydramine. Approximately 20% of patients exhibit some side effects, the most common of which are nausea and drowsiness.

Antazoline hydrochloride, like other antihistaminic compounds, applied topically to the nasal mucous membranes or to the eye, has some local effect on nasal and ocular allergy. There is rarely immediate relief from topical application of solutions of the drug, since there is no active constriction of the blood vessels; such immediate relief as may occasionally be observed is probably due to slight local anesthetic activity.

Antazoline hydrochloride has particular virtues in that it is milder than other antihistaminic drugs and less irritating to tissues. It should be remembered, however, that none of the antihistaminic compounds can take the place of vasoconstrictors, such as epinephrine and ephedrine, applied locally.

Dosage.—Orally, as tablets, 100 mg. four times daily. If adequate response is obtained, the dosage may be reduced to 100 mg. twice daily.

For ocular or nasal application, a 0.5% solution in isotonic sodium chloride may be instilled in the eye or nose or administered intranasally by a suitable nebulizer every three to four hours. The frequency of administration should be governed by response.

Tests and Standards.—

Physical Properties: Antazoline hydrochloride forms white, odorless crystals with a bitter taste. It melts with decomposition between 232 and 238 C. It is sparingly soluble in water and alcohol, and practically insoluble in ether and benzene. A 1% solution has a *pH* between 5.6 and 6.6.

[For tests and standards see *J. Am. Med. Assoc.*, 142, 258 (1950)].

Ciba Pharmaceutical Products, Inc., Summit, N. J.

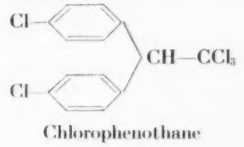
Nasal Solution Antistine Hydrochloride 0.5%: 15-cc. dropper bottles. A solution containing 5 mg. of antazoline hydrochloride in each cc.

Ophthalmic Solution Antistine Hydrochloride 0.5%: 15-cc. dropper bottles. A solution containing 5 mg. of antazoline hydrochloride in each cc.

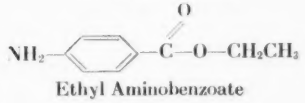
Tablets Antistine Hydrochloride: 0.1 Gm.

U. S. patent 2,449,241; U. S. trademark 432,457.

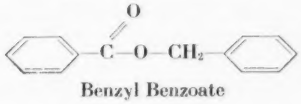
CHLOROPHENOTHANE - BENZOCAINE-BENZYL BENZOATE.—Enbin (William Cooper & Nephews).—$C_{14}H_9Cl_5$, $C_9H_{11}O_2N$ and $C_{14}H_{12}O_2$.—M. W. 354.5, 165.19, and 212.24.—An oil-in-water emulsion containing chlorophenothane-U. S. P. (D.D.T.), ethyl aminobenzoate-U. S. P., benzyl benzoate-U. S. P., and an emulsifying agent. The formulas of these substances may be represented as follows:



Chlorophenothane



Ethyl Aminobenzoate



Benzyl Benzoate

Actions and Uses.—A mixture of chlorophenothane, benzocaine, and benzyl benzoate is used for

the treatment of pediculosis and scabies. The primary ingredient, a 1% concentration of chlorophenothane destroys lice; the 2% concentration of benzocaine is an effective ovicide. Benzyl benzoate added in a concentration of 10% or more is effective as a scabicide and to a lesser extent as a pediculicide. Although the mixture is effective against both of these types of skin parasites, it should not be carelessly employed for undiagnosed itching. When scabies alone is the cause, the use of benzyl benzoate is more rational than the application of the mixture. There have been no reports of systemic effects or skin irritation following occasional applications of the mixture. Temporary smarting of tender areas of skin occurs. Because sensitization may follow, repeated applications should be avoided.

Dosage.—For pediculosis either an emulsion or ointment of the mixture should be evenly applied by rubbing in an amount (usually about 60 cc. or Gm.) just sufficient to dampen all hair of the region involved and to anoint the underlying scalp or skin. This should remain in contact with the affected areas for 24 to 48 hours and then be removed by washing hair or bathing skin with soap and warm water. It may be necessary to repeat treatment in pediculosis capitis if the hair is washed within a week after treatment. All clothing should be thoroughly laundered or dry cleaned and uncontaminated apparel used after treatment.

For scabies, a preliminary warm, soapy bath should be taken and all contaminated clothing laundered or dry cleaned to prevent reinfestation. All soap should be rinsed from the skin. Either a liquid emulsion or an ointment of the mixture is applied by rubbing over the entire body surface below the neck. All folds of the skin and areas beneath the nails must be treated. The application should be allowed to remain on the skin for at least 24 hours before bathing. The treatment should also be reapplied to the hands after each washing during the treatment period.

One application is usually sufficient to control either pediculosis or scabies, but the application may be repeated after a week if necessary. All contact with the eyes or other mucous membranes should be avoided. To minimize possible irritation in infants, the emulsion of the mixture should be diluted to half strength by adding an equal amount of distilled water.

Tests and Standards.—

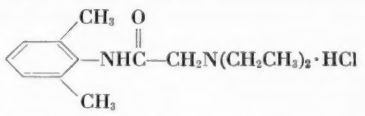
Chlorophenothane-benzocaine-benzyl benzoate is a milky liquid when it is shaken to resuspend the solids.

[For tests and standards see *J. Am. Med. Assoc.*, 142, 259 (1950)].

William Cooper & Nephews, Inc., Chicago 14.

Emulsion Enbin: 90 cc. bottles. An emulsion containing 10 mg. of chlorophenothane-U. S. P., 20 mg. of ethyl aminobenzoate-U. S. P., and 0.113 Gm. of benzyl benzoate-U. S. P. Stabilized with polyoxyalkylene derivative of sorbitan monooleate.

LIDOCAINE HYDROCHLORIDE.—Xylocaine Hydrochloride (ASTRA).—The hydrochloride of diethylamino-2,6-acetoxylidide.—$C_{14}H_{22}N_2O \cdot HCl$. —M. W. 270.79.—Lidocaine hydrochloride is prepared in solution by the action of hydrochloric acid with lidocaine. The structural formula of lidocaine hydrochloride may be represented as follows:



Actions and Uses.—Injection of lidocaine hydrochloride, a potent local anesthetic agent, produces more prompt, intense, and extensive anesthesia than an equal concentration of procaine hydrochloride. Its anesthetic potency and the area of anesthesia are approximately twice those of procaine hydrochloride. At a concentration of 0.5%, the toxicity of lidocaine hydrochloride in mice is the same as that of procaine hydrochloride, but as the concentration is increased, its toxicity exceeds that of procaine hydrochloride: at 1.0%, it is 40% greater; at 2.0%, 50% greater. It is compatible with epinephrine hydrochloride, with which it may be combined, to delay absorption, prolong its action, and reduce its toxic effects. It is also used without epinephrine when vasodepressor drugs are contraindicated. Systemic side reactions and local irritant effects are rare. Nausea and vomiting, muscular twitching and chilling have been observed.

Lidocaine hydrochloride is useful for infiltration and block anesthesia in dental as well as general surgical procedures. It has been employed for topical or surface anesthesia, but the evidence to support such use is insufficient. It has been employed for continuous caudal, peridural, and spinal (subarachnoid) anesthesia with promising results, but until its toxic potentialities have been compared with those of longer established agents, such as procaine and tetracaine, it should be used only for the less hazardous low caudal anesthesia. Lidocaine hydrochloride provides adequate anesthesia by these routes with a lower dose and with less fall in blood pressure than occurs with the better known agents.

Dosage.—Lidocaine hydrochloride is injected according to the type of local anesthesia to be induced. The maximum dose is the same as for procaine hydrochloride, *i.e.*, 0.5 Gm. in twenty-four hours. When employed without epinephrine, as in patients who are hypersensitive to that substance, the maximum dose should be avoided and dosage reduced as much as possible. Solutions of half the strength of those used in procaine anesthesia should provide equivalent anesthetic potency. It should be remembered that solutions containing more than 0.5% of lidocaine hydrochloride are more toxic than similar concentrations of procaine hydrochloride.

For infiltration anesthesia the 0.5% concentration with epinephrine hydrochloride 1:100,000 is ordinarily used, the volume injected depending on the extent of the area to be anesthetized. In minor

surgery 2 cc. to 50 cc. of this solution is usually adequate, but in major surgery, up to 100 cc. may be required. If larger amounts (up to 200 cc.) are injected, as in thorocoplasty, a solution should be 0.25%. For block anesthesia a 1.0 or 2.0% concentration with epinephrine hydrochloride 1:100,000 is used, depending on the site and structures concerned. The 2.0% concentration without epinephrine is suitable for block anesthesia of the digits. A 2.0% solution with epinephrine 1:50,000 is used for certain odontologic procedures.

Tests and Standards.—

LIDOCAINE.—α - Diethylamino - 2,6 - acetoxylidide.—$C_{14}H_{22}N_2O$.—M. W. 234.33.—

Physical Properties: Lidocaine is a white, crystalline solid possessing a characteristic odor. It is practically insoluble in water, very soluble in alcohol and chloroform, and freely soluble in benzene and ether. It melts between 66° and 69°.

[For tests and standards see *J. Am. Med. Assoc.*, **142**, 341 (1950).]

Astra Pharmaceutical Products, Inc., New York 22, N. Y.

Solution Xylocaine Hydrochloride 0.5%: 20-cc. vials: A solution containing 5 mg. of lidocaine hydrochloride and 8 mg. of sodium chloride in each cc. Preserved with 1 mg. of methylparaben per cc.

Solution Xylocaine Hydrochloride 2%: 20-cc. vials and 1.8-cc. cartridges: A solution containing 20 mg. of lidocaine hydrochloride and 6 mg. of sodium chloride in each cc. Preserved with 1 mg. of methylparaben per cc.

Solution Xylocaine Hydrochloride 0.5% with Epinephrine Hydrochloride 1:100,000: 20 and 50-cc. vials: A solution containing 5 mg. of lidocaine hydrochloride, 0.01 mg. of epinephrine hydrochloride and 8 mg. of sodium chloride in each cc. Preserved with 1 mg. of methylparaben per cc.

Solution Xylocaine Hydrochloride 1% with Epinephrine Hydrochloride 1:100,000: 20 and 50-cc. vials: A solution containing 10 mg. of lidocaine hydrochloride, 0.01 mg. of epinephrine hydrochloride and 6 mg. of sodium chloride in each cc. Preserved with 1 mg. of methylparaben per cc.

Solution Xylocaine Hydrochloride 2% with Epinephrine Hydrochloride 1:100,000: 20 and 50-cc. vials and 1.8-cc. cartridges: A solution containing 20 mg. of lidocaine hydrochloride, 0.01 mg. of epinephrine hydrochloride and 6 mg. of sodium chloride in each cc. Preserved with 1 mg. of methylparaben per cc.

Solution Xylocaine Hydrochloride 2% with Epinephrine Hydrochloride 1:50,000: 20-cc. vials and 1.8-cc. cartridges: A solution containing 20 mg. of lidocaine hydrochloride, 0.02 mg. of epinephrine hydrochloride, and 6 mg. of sodium chloride in each cc. Preserved with 1 mg. of methylparaben per cc.

U. S. patent 2,441,498.

KAPPA PSI HOLDS NATIONAL CONVENTION

The twenty-fifth Grand Council Convention of Kappa Psi Pharmaceutical Fraternity was held at the John Marshall Hotel in Richmond, Va., on December 29, 30 and 31, 1949. Delegates from twenty-eight states, representing forty-eight chapters and provinces, were in attendance at the largest convention in the history of the fraternity. Theta Chapter of the Medical College of Virginia, School of Pharmacy, was host.

Two days were devoted to business sessions and one evening to a professional meeting. At the latter the speakers were Justin L. Powers, chairman, Committee on National Formulary, Harold V. Darnell, editor, THIS JOURNAL, and George H. Frates, Washington representative of the N. A. R. D. During the evening Dr. Powers was inducted into Kappa Psi as an honorary member and was cited for his outstanding contributions to American pharmacy.

The seventieth anniversary of the founding of Kappa Psi Fraternity was celebrated at a dinner on New Year's evening with Grand Regent Frank H. Eby presiding and more than three hundred members and guests in attendance.

Grand officers elected to serve through the two years 1950–1951 are: Grand Regent, Frank H. Eby (Temple University); First Grand Vice-Regent, Louis Fischer (University of Washington); Second Grand Vice-Regent, Karl L. Goldner (University of Tennessee); Third Grand Vice-Regent, Milton L. Neuroth (Medical College of Virginia); Grand Secretary-Treasurer, Ray S. Kelley (Massachusetts College of Pharmacy); Grand Historian, Nicholas W. Fenney (University of Connecticut); Grand Ritualist, Ralph W. Clark (University of Oklahoma); Grand Counsellor, James R. Thayer (St. Louis College of Pharmacy and Science).

FDA WARNS AGAINST DULCIN AND P-4000

Chronic-toxicity studies conducted by the Food and Drug Administration show that the artificial sweeteners dulcin (also known as sucrol, or 4-ethoxyphenylurea, or paraphenetolcarbamide) and P-4000 (also known as 1-*n*-propoxy-2-amino-4-nitrobenzene) cause injury to rats when fed at relatively low levels for approximately two years. Consequently, the FDA regards these chemicals as poisonous substances which have no place in any food.

Pending further evaluation of available data, it is not possible to state the conditions under which dulcin or P-4000 would render a drug in which it is used dangerous to health. Since other artificial sweeteners are available which have a much greater margin of safety in chronic-toxicity studies, the use of dulcin and P-4000 as sweeteners of drugs is to be discouraged.

ASSOCIATIONS

The mid-winter meeting of the **New Jersey Pharmaceutical Association** was held in Trenton, January 31, 1950. During the sessions the Frank O. Cole Trophy and the A. Ph. A. Award of Merit were awarded to the Altemus Pharmacy, one of the winners in the 1949 National Pharmacy Week window contest.

According to R. Q. Richards, secretary of the **Florida State Pharmaceutical Association,** the Florida legislature has amended the state pharmacy law so as to prevent the filling of prescriptions by assistants in physicians' offices.

The amendment nullifies a recent state supreme court decision which upheld the right of a physician's employees, even though they were not pharmacists, to fill prescriptions under the supervision and direction of the physician.

Text of the amendment follows:

> **"465.07—Physicians exempt; merchants may sell certain drugs**
>
> "Nothing in this chapter shall be construed to prevent a legally authorized practioner of medicine from practicing, dispensing, compounding for or giving any medicines or poisons to *his* patients in the regular course of *his* practice as such physician; provided, however, that such compounding, preparing and dispensing be done by the *physician himself* . . . . "

Glenn Sonnedecker has been named secretary of the **American Institute of the History of Pharmacy.** Headquarters of the Institute are at the University of Wisconsin School of Pharmacy.

Dr. Morris Goldstein, new president of the **District of Columbia Board of Pharmacy,** was honored March 8 by a testimonial dinner sponsored by the A. Z. O. fraternity. Dr. Goldstein, a practicing retail pharmacist, is a past president of the D. C. Pharmaceutical Association and at present is a member of its executive board.

To foster pharmaceutical activities in Mexico and to establish closer relations with similar organizations of other countries are the objectives of the **Colegio de Quimico-Farmaceuticos Biologos de Mexico,** the Mexican Association of Pharmaceutical Chemists. Officers for 1950 and 1951 are: Benito Couriel, president; Humberto Farrera, vice-president; Luz Maria Rodriguez, secretary; and Clemencia Briseno, treasurer.

A resolution adopted at the recent annual convention of the **Wisconsin Pharmaceutical Association** recommends that public hearings be held by the Food and Drug Administration in determining the safety of drugs. The resolution follows:

> "Resolved, that before making an official determination as to whether or not any given drug is a so-called "dangerous" drug, the Federal Food and Drug Administration should hold public hearings and give due consideration to the opinions of organized pharmacy, the other health professions, and the public, regarding the same."

At a special meeting of the directors of the **Michigan Academy of Pharmacy,** January 10, J. Edward Richardson was elected president for 1950. Mr. Richardson, a well-known practicing pharmacist of Detroit, is a past president of the Detroit Retail Druggists Association, the Michigan branch of the A. Ph. A., the Michigan State Pharmaceutical Association, and a former member of the Board of Pharmacy. Dean E. P. Stout of the Detroit Institute of Technology College of Pharmacy was elected vice-president and Ernest R. Jones of Parke, Davis & Co. was re-elected secretary-treasurer.

COLLEGES

Dr. H. Evert Kendig, dean of the **Temple University School of Pharmacy,** was presented the Distinguished Service Award by the General Alumni Association of the University at the annual Founder's Day Dinner on February 16. The honor is conferred annually on the graduate who, over the years, has made an outstanding contribution to Temple University. Dr. Kendig's contributions to his profession have also brought him other honors, including the Remington Medal Award in 1944.

To the two persons "who have made marked contributions to their fields and have brought honor to their fraternities" the Professional Inter-Fraternity Council at **Ohio State University** makes annual recognition awards. Dr. George M. Curtis will be awarded the recognition certificate by Alpha Kappa Kappa, medical professional fraternity. In 1949 Dr. Curtis was winner of the Research Award given by the Chilean Iodine Educational Bureau, Inc. He will receive this award and give the "Iodine Lecture" at the Atlantic City Convention of the A. Ph. A.

Dr. Bernard V. Christensen, dean of the College of Pharmacy, will receive the recognition award from Rho Pi Phi, professional pharmacy fraternity. Dr. Christensen, who has long been identified as a national leader in the profession, is president of the American Association of Colleges of Pharmacy, also past president and a member of the Council of the

(Continued on Page 180)

infants and children in your neighborhood

The frequent anemias noted among these youngsters will soon be more effectively treated with Zymatinic* Drops – the new hematinic specifically formulated to meet the requirements of clinicians treating the anemias of infancy and childhood.

Zymatinic Drops effectively combines the multiple factors now known to be specifically required in the modern treatment of anemia during the period of active growth. It is a stable, acceptable liquid preparation and may be administered direct or mixed with fruit juices Zymatinic Drops contains in each cc.:

Liver Concentrate	*from 7.8 Gm. whole liver*
Ferrous Gluconate	*65 mg.*
Thiamine Hydrochloride (B1)	*1 mg.*
Riboflavin (B2, G)	*1 mg.*
Nicotinamide	*8 mg.*
Folic Acid	*1 mg.*
Alcohol	*1.5%*

Zymatinic Drops is now being introduced to physicians in your neighborhood by extensive sampling, detailing, direct mail and journal advertising programs.

**Trademark*

Upjohn
KALAMAZOO 99, MICHIGAN

Fine Pharmaceuticals Since 1886

BRIEFLY NOTED

(*Continued from Page 178*)

AMERICAN PHARMACEUTICAL ASSOCIATION. He was a member of the Advisory Committee of the national Pharmaceutical Survey and has long been active in the American Council on Pharmaceutical Education, the U. S. P. Revision Committee and other professional organizations.

MANUFACTURERS

Elmer H. Bobst

Elmer H. Bobst, president of William R. Warner & Co., Inc., has been elected president of **Warner-Hudnut, Inc.,** the new company embracing Warner and Hudnut affiliates. The realignment provides four separate divisions: William R. Warner, Richard Hudnut, Standard Laboratories, and the Foreign Division.

Mr. Bobst, widely known to the medical and pharmaceutical professions, has recently been re-elected National Chairman of the Campaign Committee of the American Cancer Society, a project to which he has devoted great interest and effort.

Continuing in the direction of Warner-Hudnut will be Robert J. Davis, formerly executive vice-president and director of both companies, who will hold the same post in the new company; and Charles A. Pennock who will continue as president of the Richard Hudnut Division. Mr. Gustavus Pfeiffer, long the head of William R. Warner & Co., remains a director of the company.

Dr. Jesse W. Huff, until February 1 the assistant director of biochemical research, **Sharp & Dohme, Inc.,** Philadelphia, has been named director of biochemical research.

Eli Lilly and Company has established a research fellowship of $1800 at the University of Connecticut College of Pharmacy for investigation into the production of ergot. The fellowship, for one year beginning September 1, 1950, will be under the auspices of Dr. Arthur E. Schwarting.

During the winter meetings of the American Association for the Advancement of Science, Dr. Frederick F. Yonkman, director of research at **Ciba Pharmaceutical Products, Inc.,** and lecturer in pharmacology and therapeutics at the College of Physicians and Surgeons of Columbia University, delivered a talk on the important advances in the development of chemical compounds which block the sympathetic nervous system.

U. S. P. HEADQUARTERS DEDICATION

April 12

New York City

As we go to press, it is learned that the new Headquarters Building of the Pharmacopoeia of the United States at 46 Park Avenue, New York City, will be dedicated on Wednesday, April 12, 1950. Dedication ceremonies will be held in the Morgan Memorial Library at the corner of 36th Street and Madison Avenue at 2:30 p. m.

The new U. S. P. Headquarters Building will be open to the public on the day of dedication and members of the AMERICAN PHARMACEUTICAL ASSOCIATION and others interested in pharmacy will want to inspect the building and also attend the dedication exercises in the afternoon.

The dedication program will consist of presentation of the building by the Board of Trustees to the officers of the U. S. P. Convention. Dr. Robert L. Swain is the chairman of the Board of Trustees and Dr. Cary Eggleston is the president of the U. S. P. Convention. He will receive the building on behalf of the Convention.

The program also includes addresses by Dr. Paul B. Dunbar, Commissioner of Food and Drugs, who heads the Food and Drug Administration of the Federal Security Agency at Washington, D. C., and by Dr. William G. Workman, chief of laboratory of biologics control, Microbiological Institute, U. S. Public Health Service at Bethesda, Md.

The acquisition of the building was made possible through contributions of individuals and members of the drug, chemical and pharmaceutical industries, all of whom are greatly interested in the development of uniform legal standards for drugs, such as are provided in the U. S. Pharmacopoeia and National Formulary. The fund-raising activities for the acquisition of this building were in charge of Dr. E. Fullerton Cook, retiring chairman of the U. S. P. Committee of Revision, who practically single handedly carried on the solicitation among individuals, medical and pharmaceutical organizations and industrial firms for the funds with which to purchase the building.

THE MOST TROUBLE-FREE
PRESCRIPTION BALANCE EVER

Designed by
Raymond Loewy
Associates

LESS GLASS HAZARD
... there's actually 54% less fragile glass, though the Torsion mechanism is as openly visible as ever. The glass beneath the pans is cushioned by rubber gaskets. The metal walls are highly shock resistant. And the glass is fire tempered to make it resistant to accidental breakage.

LESS LEAKING DUST... new raised grommets around the pan supports keep dust from being brushed into the case. Seal-fitted glass is added dust protection.

CORROSION ALMOST IMPOSSIBLE... all the working parts of the Rx-1 are newly designed in amazingly corrosion resistant metals. A brand new super-strong alloy for the Torsion Bands. Stainless steel for the pans. New metals for the arrest mechanism. Even the finish of the case is more resistant to chemicals and scratches than ever!

The New
TORSION BALANCE
Prescription Model Rx-1...
sensitivity 1/32 grain
$175 (weights extra)

Your Drug Supply Salesman carries picture-portfolio with complete specifications of the Rx-1.

The Torsion Balance *Company*
MAIN OFFICE AND FACTORY: CLIFTON, N. J.
SALES OFFICES: CHICAGO, DALLAS, SAN FRANCISCO

Typical Days

FROM THE SECRETARY'S DIARY FOR DECEMBER

1st Glad to welcome President Jenkins early this morning and spent most of the day with him reviewing ASSOCIATION affairs, inspecting the building and grounds, and with Pat Costello, who came in later, reviewing the agenda for the first meeting of the Commission on Professional Manpower for Pharmacy. At lunch with Jenkins, Costello and Lt. Colonel Alm, a distinguished visitor to the United States, who heads the Pharmacy Corps of the Swedish Army.

In the afternoon a visit from Kenneth Attwood of Jacksonville and Lew Longaker of Philadelphia, who were interested in our library and reference service to prescriptionists. To dinner at the Statler with President Jenkins, Treasurer Schaefer, and N. A. B. P. Secretary Costello, and then to the first meeting of the Manpower Commission, which has already been reported widely in the press.

2nd Most of this day attending the meeting of the National Drug Trade Conference, to which came delegates from all national groups. While this conference takes no extensive action on the problems it discusses, it nevertheless constitutes the best medium for the exchange of views and airing opinions which frequently lead to action elsewhere.

6th In the afternoon, by rail to New York, for the Remington Medal dinner in honor of Ernest Little, the 1949 recipient. It was a fine gathering and all of the speakers had good terminal facilities, speaking interestingly about the many fine contributions of the Medalist to American pharmacy.

8th Now visiting the A. M. A. exhibit at Washington's great Armory, in connection with the midyear meeting of that organization. Not only are the commercial exhibits interesting, but the scientific exhibits, which occupy much space present intriguing views of research progress. There was special interest in the color television portrayals of surgical operations, sponsored by Smith, Kline and French.

9th Yesterday and today attending the meetings of the National Conference on Occupied Areas with Dr. Mattocks and Mr. Franzoni, and in the evening to dinner with President-elect Reamer and President Flack of the American Society of Hospital Pharmacists.

10th All this day with the Policy Committee of the Division of Hospital Pharmacy, and glad to welcome Sister Adelaide of the Catholic Hospital Association and Dr. Robert Cadmus of the American Hospital Association, who joined with representatives of the A. PH. A. and A. S. H. P. in working out many problems.

11th This Sunday sacrificed to the meeting of the Executive Committee of the American Society of Hospital Pharmacists. Especially glad to welcome Sister Junilla, A. S. H. P. Treasurer, who hails from the Queen of Angels Hospital in Los Angeles. The committee reviewed the proposed minimum standards for hospital pharmacies and the proposals of the Policy Committee for building up the Division. A fine spirit of cooperation prevailed.

12th Today conferring with Sister Junilla on the reorganization of the Los Angeles branch of the A. PH. A., which is now in progress, sparked by the Sister, who has brought a fresh point of view and a method of coordination to the widely divergent groups making up organized pharmacy in Southern California.

13th Today attending some of the sessions of the Hoover Committee and listening to General Hawley tell about the proposal to reorganize medical services in the Federal Government. Also a chat with A. M. A.'s Secretary, George Lull, who attended these meetings, and in the evening joining a small group dinner arranged by President Johnson of the Hoover Reorganization Committee, who told of plans to bring information to the people about the proposed reorganization and what it means in savings to the taxpayer.

15th A welcome visit this day from Tom Jones and Steve Olszewski, of the Klemtner Company, who had never seen our building and facilities before and were agreeably surprised by what they saw. In the afternoon discussing printing and other publication problems with printers, artists and photo engravers.

17th Today a rush trip to Philadelphia for last-minute activity in completing the December JOURNAL. Also a visit to the Valley Forge Hospital of the U. S. Army, returning to Washington before midnight.

(Continued on Page 184)

announcing *the remarkable new S.K.F. preparation*

Dexamyl *to relieve mental and emotional distress*

Dexamyl

is widely useful in everyday medical practice.
Its therapeutic scope extends from minor emotional disturbances to severe psychoneurotic states.
You should, therefore, expect rapid turnover.

Dexamyl

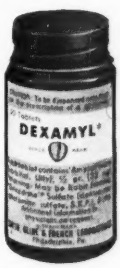
combines the antidepressant action of 'Dexedrine' and the calming action of 'Amytal'.

Dexamyl

Each tablet contains:
'Dexedrine'* Sulfate . . . . . 5 mg.
(dextro-amphetamine sulfate, S.K.F.)
'Amytal' . . . . . ½ gr. (32 mg.)
(Amobarbital, Lilly)

Dexamyl

is available from your wholesaler in bottles of 50 tablets; list price, $16.56 per dozen bottles.
Be sure you have enough to meet the demand.



Smith, Kline & French Laboratories, Philadelphia

*T.M. Reg. U.S. Pat. Off.

TYPICAL DAYS

(Continued from Page 182)

20th This evening a jolly Christmas party with the staff at the Statler Hotel. The hidden talent among a group of co-workers such as this is often surprising. The songs by Mrs. Dean, the art work of Mrs. Thoms, and the literary talents of Mrs. Gisler and Miss Oviatt, to mention but a few, added much to the pleasure of this annual get-together.

23rd This and the preceding days taken up with preparations for the coming meeting of the Finance Committee of the Council. Now going over the year's income and expenditures, to gather figures for guidance in the preparation of the Budget for 1950.

28th An important day at headquarters because the new telephone system, which does away with the switchboard and makes it possible to use the telephone for direct intercommunication between staff offices, got under way. The much anticipated difficulties did not materialize.

29th Today a visit from many Kappa Psi brothers who are on their way to the annual convention at Richmond. Also a surprise visit from former A. PH. A. President E. N. Gathercoal, who also served as Chairman of the National Formulary Committee for many years and started this book on its present expanded program of scientific progress in drug standardization.

30th This day in Baltimore where the Finance Committee met and reviewed the proposals for 1950, prior to their submission to the Council for approval. It was found that the income for the year had exceeded the expense considerably, and that the outlook for 1950 was good.

31st Now ending 1949 with the feeling that such accomplishments as have been achieved are due to the well-coordinated efforts of the thousands of active members of our ASSOCIATION scattered throughout the United States and other parts of the world, the cooperation of a hard-working and able staff, and the progressive and forward-looking leadership of President Jenkins, Chairman Beal and other officers and members of the Council of the ASSOCIATION.

BORPLEX
TRADEMARK
MULTIVITAMIN SUPPLEMENT

Goes Back to Nature... For the Important B-Vitamins

Authorities[1,2] stress the importance of including a good natural source of the B-complex in nutritional supplement, to furnish the patient with important B-vitamins as yet unidentified.

BORPLEX* provides: • Barley-malt extract and brewers' yeast, two excellent natural sources of the unidentified members of the B-complex *Plus* • Adequate supplementary amounts of vitamins A and D and the known B-vitamins *Plus* • Supplementary iron and manganese, to help ward off nutritional anemia

Delicious malt flavor—especially appealing to children—in milk or alone

SUPPLIED: Bottles of 8 fl.oz. and 1 gal.

1. Editorial: Ann. Int. Med. 21: 913 (1944).
2. Ingelfinger, F. J.: New England J. Med. 223: 409 (1945).

*Trademark of the Borcherdt Malt Extract Co.

Borcherdt MALT EXTRACT COMPANY
Malt Products for the Medical Profession Since 1868
217 North Wolcott Avenue • Chicago 12, Illinois

THIS ADVERTISEMENT IS CURRENTLY APPEARING IN LEADING MEDICAL JOURNALS

new

common cold therapy

. . . without drowsiness

Early treatment with Thephorin-AC tablets will frequently abort or relieve the common cold with little likelihood of drowsiness. Thephorin-AC is therefore of particular value to motorists, machine operators and ambulatory patients who must remain alert. It combines the antihistamine effect of Thephorin with the action of acetophenetidin, acetylsalicylic acid and caffeine. In over 2,000 attacks of the common cold, Brewster* found that Thephorin "is effective . . . and will abort a high percentage of the attacks." Thephorin-AC tablets are supplied in vials of 25 and 100 and in bottles of 1000. Supported by extensive detailing, direct mail and medical journal advertising. Stock *now* for the peak cold season immediately ahead.

HOFFMANN-LA ROCHE INC. • NUTLEY 10 • NEW JERSEY

Thephorin®-AC

tablets

'Roche'

(*Thephorin—brand of phenindamine*)

*J.M. Brewster, *in press.*

INFORMATION SERVICE

Members of the American Pharmaceutical Association are invited to submit their professional problems to the Journal, 2215 Constitution Ave., N. W., Washington 7, D. C., giving all pertinent details. Advisory service is provided by the A. Ph. A. library and technical staff and the Journal panel of technical consultants.

SULFONAMIDE SUSPENSIONS

We would be interested in finding any published formulas for a sulfonamide suspension. —R. C., Pennsylvania

The following formula was published in the *Bulletin of the American Society of Hospital Pharmacists*, January–February, 1946, issue, page 22:

	Gm. or cc.
Sulfadiazine powder	62.5
Pectin	7.0
Sodium citrate	75.0
Benzaldehyde	0.2
Zephiran chloride solution 12.5%	1.0
Syrup	500.0
Orange flower water	200.0
Distilled water, to make	1000.0

Procedure: Rub the pectin until smooth with a small amount of syrup. Add the remainder of the syrup. Add the other ingredients, having first dissolved the sodium citrate in the orange flower water. Mix thoroughly and pass the mixture through a homogenizer.

SODIUM LAURYL SULFATE, U. S. P.

Can you advise us where we can purchase sodium lauryl sulfate, U. S. P.?—A. W., Texas

This product can be obtained from E. I. du Pont de Nemours & Co., Wilmington, Del., under the trade name, Duponol C.

SURAMIN

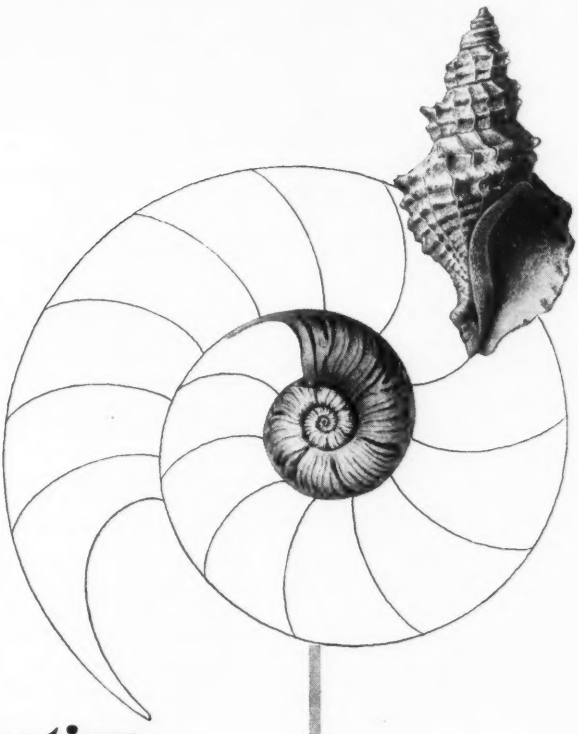
Could you give me the name of a possible supplier of Suramin (Germanin, Bayer 205, Fourneau 309)?—S. J., Delaware

Suramin is available under the name Germanin from Igepha, Inc. (Bayer), Zurich, Switzerland. We suggest that you write to The Bayer Company, Division of Sterling Drug Co., 170 Varick St., New York 13, N. Y., as to a possible source of the product in this country.

TRANSFER OF COMMISSION TO MSC

I am a registered pharmacist who served as a pilot in the Army Air Corps during World War II and still hold my commission in the Air Force Reserve. Can you advise me how to transfer my commission to the Medical Service Corps?—C. W., Maryland

According to Col. O. F. Goriup, Chief, Medical Service Corps, in view of your qualifications as stated in your letter, it would appear that you would be eligible to transfer your commission from the Air Force Reserve to the Medical Service Corps Reserve. The procedure involved is to submit a letter of request for transfer, listing your qualifications and reason for request, to the Chief of Staff, Air Force, Washington 25, D. C., Thru: Commanding General, Ninth Air Force, Langley Field, Virginia. If this request is approved by the Air Force, it will then be forwarded to MSC headquarters for approval.



Protection...

Just as the shell of the nautilus protects it against environmental injury, so does

Gelusil* a combination of an especially prepared, nonreactive aluminum hydroxide gel and magnesium trisilicate, protect the inflamed or ulcerated areas of the gastric mucosa against injury by the acid gastric juice. Gelusil* is a pleasant-tasting preparation . . . an effective antacid adsorbent.

Gelusil* provides rapid and sustained relief of gastric hyperacidity and is particularly effective as an adjuvant in the medical management of gastric or duodenal ulcer.

Gelusil* is available as a pleasant-tasting liquid or tablet.

Liquid—bottles of 6 and 12 fluidounces.

Tablets—individually wrapped in cellophane—boxes of 50 and 100 tablets. Also bottles of 1,000.

William R. Warner & Co., Inc.
New York St. Louis

Gelusil* 'Warner'

liquid and tablets

*T. M. Reg. U. S. Pat. Off.

A. Ph. A. Branches

STUDENT BRANCHES

AT the first meeting of the new year the **Oregon State College Branch** heard an address on various forms of insurance available to pharmacists and forecast its future meetings. February included a student-faculty fireside meeting and participation in activities scheduled for National Social Hygiene Week.

Montana State University Branch at Missoula is planning for a successful year of progress. New officers are: Mont Gutke, president; Rolland Hammerness, vice-president; Dorothy Martin, secretary; and Kenneth Rickert, treasurer.

Students and faculty members of other schools joined the **University of Georgia Branch** to hear Dr. Clarence B. Palmer's talk on "The Medical Aspects of the Atomic Bomb." Keeping an eye on the social as well as the academic side of life, the Branch sponsored a student-faculty dance in January.

Lehman Alley, Secretary of the Alabama State Board of Pharmacy, explained the revised practical experience requirement recently adopted by the Board of Pharmacy in his talk at the January 5 meeting of the **Howard College (Ala.)Branch.**

This year's activities of the **Massachusetts College of Pharmacy Branch** got under way with an address "The Dermatologist Looks at Pharmacy" by Dr. Downing, a Boston dermatologist. High point of the February meeting was the film, "Energy Release from Foods," presented by the Upjohn Co.

Officers of the new Student Branch at the **University of New Mexico** will be: Ralph J. Guttierrez, president; Walter J. Stewart, vice-president; Vernice E. Bennett, secretary; and Edward J. Capper, treasurer.

First talk in a series designed to present both sides of the compulsory health insurance issue was given by Mrs. Gretchen Pfankuchen to the Student Branch of the **University of Wisconsin.**

The **Wayne University Branch** concluded its fall semester activities with a movie "Penicillin in Medicine and Surgery." Officers for 1950 are: Salvatore Falzone, president; George Edwards, vice-president; William Pykonen, recording secretary; Anita Boglio, corresponding secretary; and Melvin F. W. Dunker, treasurer.

"Home news" could have been the password for the February meeting of the **Rutgers University Branch.** Movies were shown of the 1949 Rutgers football games along with a travelogue of New Jersey.

LOCAL BRANCHES

INSTEAD of holding its regular meeting, the **Chicago Branch** took part in the A. PH. A. District Meeting on January 30 (reported elsewhere in THIS JOURNAL). In February, the regular "What's New" series continued with Dr. Maher and Dr. Webster giving university and pharmacy "new's." In addition, the group heard Wm. P. Hayes of the National Cash Register Co. discuss "The Economic Squeeze on Small Business."

Officers for 1950 elected at the January meeting of the **Albuquerque Branch** are: Joe E. Browne, president; Ray McCann, vice-president; and Robert D. Sasser, secretary-treasurer.

Election of officers of the **Michigan Branch** took place January 24. George A. Bender, editor of *Modern Pharmacy*, president; Donald F. Stocks, vice-president; Gordon F. Goyette, Jr., secretary; and E. A. McArthur, treasurer; will be inducted into office during the May meeting. At this session John W. McPherrin, editor of *American Druggist*, reported on his investigations of the British medical care plan.

The **Philadelphia Branch** has the advantage of hearing two speakers at its dinner meetings. At the February dinner, Dr. Henry F. Page, formerly Medical Director for the Philadelphia County Prisons, spoke on the "Medical Problems Encountered in the Philadelphia Prisons." In the evening, Dr. John R. Moto, Medical Director of Armour Laboratories, discussed the developments, applications and potential usefulness of ACTH.

"What You Should Know About Fair Trade" was the topic of Maurice Mermey's address at the February meeting of the **Northern New Jersey Branch.**

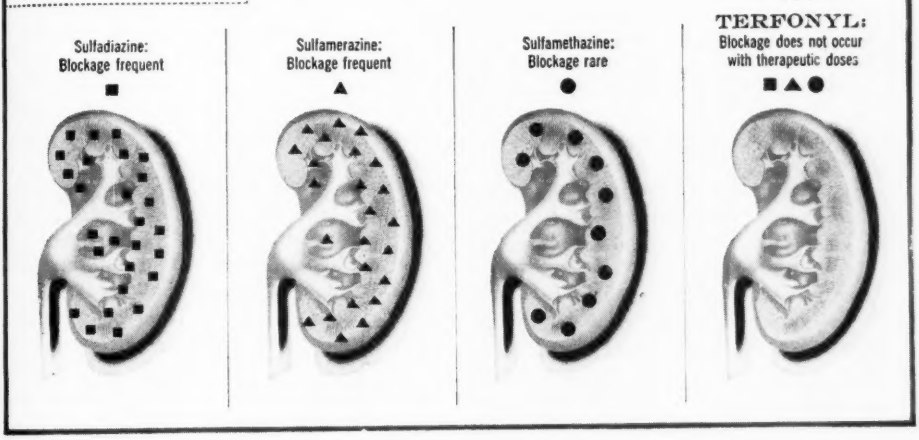
The sixth of the annual Seminars sponsored jointly by the Branch with Rutgers University College of Pharmacy is announced for March 1, 8, 15, and 22. The lecturers for the seminars will be: Charles Ragan, M.D., "Present Status of Antihistamines"; Willard F. Verwey, Sc.D., "Present Status of Antibiotics"; Bradford Craver, M.D., "Status of Antihistamines in Modern Therapy"; and LeRoy Weidel, Sr., B.S., "Status of Prescription Service."

TERFONYL

Sulfadiazine
Sulfamerazine
Sulfamethazine

FOR SAFE SULFONAMIDE THERAPY

Low Renal Toxicity



With usual doses of Terfonyl the danger of kidney blockage is virtually eliminated. Each of the three components is dissolved in body fluids and excreted by the kidneys *as though it were present alone.* The solubility of Terfonyl is an important safety factor.

Terfonyl contains equal parts of sulfadiazine, sulfamerazine and sulfamethazine, chosen for their high effectiveness and low toxicity.

Terfonyl Tablets, 0.5 Gm. Bottles of 100 and 1000

Terfonyl Suspension, 0.5 Gm. per 5 cc.
Appetizing raspberry flavor • Pint bottles

SQUIBB MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

"TERFONYL" IS A TRADEMARK OF E. R. SQUIBB & SONS

Development of Chemicals

. . . . . from p. 167

may be fragments of the antibiotic and which the microorganism can utilize in the biosynthesis of the antibiotic.

While this work in the organic laboratory is going ahead, the microbiologists are busy improving fermentation media, as well as cultures, in order to produce the antibiotic in higher concentration. At the same time, the applied research chemists and chemical engineers are improving the recovery process with regard to simplicity and yield, while the pilot plant endeavors to produce by the not-yet-well-developed procedures sufficient quantities of the antibiotic to keep abreast of the demands for the chemical, clinical, pharmacological and pharmaceutical study of the problem. At the same time much experience is gained on the behavior of the various unit process steps, and with the aid of research chemical engineers, data are collected which are invaluable for the final design of equipment for large-scale production.

Since microbiological assay methods are admittedly quite erratic, early in the investigation work must be started to find more satisfactory chemical methods to determine the concentration of the antibiotic at the various stages of the production process as well as in body fluids of man and animals.

Mutatis mutandis, the development of new hormones or vitamins, proceeds in quite a similar way. Of course here, plant material or animal organs are the usual raw materials. At the early stages, the nutritionist and the biologist or physiologist supplement the work of the chemist in the attempt to prepare isolates of higher and higher concentration. The rest of the work proceeds in a similar fashion from stage to stage, except that the synthetic chemist derives much greater satisfaction from his efforts in so far as all the known vitamins have already been synthesized, and most of them economically, with the exception of the newest one, vitamin B_{12}, the antipernicious anemia factor, while of the hormones a number have been successfully synthesized.

This synthetic approach to production requires a well-organized group of capable applied research chemists. As mentioned earlier, the synthesis of most of the vitamins requires multistep processes, each of which must function smoothly with a high degree of efficiency, since a 10-step process with an average of 80% yield in each step would give an over-all yield of only 10%. It is, therefore, often necessary to work out synthetic reactions different from those originally contemplated, and intensive work by the research chemical engineers is also required in order to find more efficient methods of handling the many unit process steps. Finally, such a variety of reactions as is usually entailed in the synthesis of a vitamin, makes it necessary that the pilot plant be equipped with a well-planned assortment of fair-sized equipment in order to produce the initial requirements for the new vitamin or hormone, as the case may be.

In conclusion, I would say that the development of new chemicals for the pharmaceutical industry is unique in that the customer demand is always there. There are always sick people, there are always doctors who want to treat their patients and there are always pharmaceutical manufacturers who wish to supply the newest and best medical preparations to the public. But these are demanding customers who look at the new product from different points of view. The patient wants the medicine not too disagreeable to take and low in cost, the doctor wants a sure-fire product that assures him of a high percentage of success and the pharmaceutical manufacturer wants, in addition, a stable and uniformly pure product, that lends itself readily to transformation into suitable dosage forms. In a way, the approval by the F. D. A. assures all these categories of customers that their essential requirements of the new medicinal are being met.

SALES ABOVE COMPETITORS

Exclusive distributor of monthly "Medical Briefs" to San Francisco doctors had sales increase in 1948 while independent drug stores lost 11% volume.

→ Send coupon for details on "Medical Briefs".

Medical Briefs, 251 Post Street, San Francisco 8:
I want to build prescription volume.
Tell me all about *"Medical Briefs"*

Signature_____
Company_____
Address_____
City_____

New A.Ph.A. Members

THE ASSOCIATION EXTENDS A CORDIAL WELCOME TO THE FOLLOWING MEN AND WOMEN WHO WERE ACCEPTED FOR ACTIVE MEMBERSHIP DURING THE MONTH PRECEDING PREPARATION OF THIS ISSUE.

ARIZONA

Kelly, Kenneth R., Williams
Romine, Stanley E., Tucson

CALIFORNIA

Barnes, John F., Saratoga
Edick, Glenn J., Campbell
Fenolio, Herbert J., San Jose
Giddings, E. Tennyson, Los Angeles
Gong, Yut Mon, Albany
Harris, H. Bruce, Los Angeles
Johnston, Edwin A., Berkeley
Jones, Lloyd E., Oakland
Romano, Robert, Los Angeles
Rosati, Ernest J., San Jose
Woolliscroft, Wm. A., San Jose
Zinck, Earle G., Stockton

GEORGIA

James, Luther S., Acworth

ILLINOIS

Berliant, Ernest S., Chicago
Harris, Benjamin R., Chicago
Lewis, Samuel A., Chicago
Pisano, James, Sr., Chicago
Watt, David W., Springfield

INDIANA

Jones, William B., Lawrenceburg
Klimis, John E., Gary
Loser, Russell L., Noblesville
Noyes, James H., Lawrenceburg
Sakas, Mildred I., Indianapolis

IOWA

Lindly, John M., Glenwood
Schuchmann, E. F., Oelwein
Sister Mary Theophila, Waterloo

KANSAS

Lydick, Harry L., Overland Park

KENTUCKY

Budde, Jerome A., Ludlow

LOUISIANA

Campbell, John P., Baton Rouge
Everett, James P., New Orleans
Fish, Roy C., Mer Rouge
Kellerman, John F., New Orleans
Shaw, Oscar W., Jr., Shreveport

MARYLAND

Payne, Harry, Baltimore

MASSACHUSETTS

Cabral, Antonio T., Fall River

MICHIGAN

Allinger, Edward C., Lake Orion
Emmert, Herman C., Detroit
Kyrides, Lucas P., Zeeland
Liu, John K. C., Ann Arbor
Meyer, N. H., Grosse Pointe Farms
Sister M. Dennis Ducey S.S.J., Kalamazoo

MINNESOTA

Jordan, James F., St. Paul

MISSOURI

Geiter, Clyde W., Kansas City

NEBRASKA

Dorsey, Lillian M., Omaha

NEW JERSEY

Brewer, Willard O., Plainfield
Budrecki, Herbert R., Elizabeth
Fiedler, John A., Gloucester
Theile, Fred C., Newark
Wester, Alfred, Newark

NEW MEXICO

Keyes, Victor V., Albuquerque

NEW YORK

Benishin, George, Sunmount
Berger, Howard H., New York
Black, Frank F., Brooklyn
Conti, Frank C., Buffalo
Demmary, Esther D., Paterson
Katz, Arthur, Brooklyn
Knopp, Benjamin F., New York
Seibert, Geo. W., Narrowsburg
Shupe, Irwin S., Rensselaer
Stewart, Charles N., Rensselaer
Verdrager, David, Brooklyn

OHIO

Hersh, Max J., Toledo
Masuoka, Kayoshi, Akron
Read, Robert O., Columbus
Sacks, Nathan R., Cleveland
Sister Eva Dunn, R.N., B.S., Toledo

OKLAHOMA

Weaver, E. R., Stillwater

PENNSYLVANIA

Dripps, Samuel M., Pittsburgh
Ellenbogen, William C., Philadelphia
Episcopo, Charles D., Pittsburgh
Garde, M. V., Philadelphia
Gicquelais, Louis C., Pittsburgh
Heines, Edward J., Huntingdon Valley
Martin, Ruth C., Philadelphia
Montgomery, Robert, Pittsburgh
Pagano, George A., Philadelphia
Pierro, Joseph A., Philadelphia
Sister Mary Francesca (Mankowska), Hazleton

SOUTH CAROLINA

Eleazer, J. B., Estill

TEXAS

Bailey, Aubrey W., Sr., Karnes City
Engle, Edna E., Borger
Freels, John H., Bellaire
Hunter, Lue A., Longview
Hurley, Elmer Lee, Andrews
Williams, Charles E., Houston

UTAH

Hill, Marjorie, Salt Lake City

VERMONT

Aldrich, Duane G., Bellows Falls

WASHINGTON

Pickett, E. E., Yelm

WEST VIRGINIA

Rodewig, Carl W., Wheeling

WISCONSIN

Chirpich, Paul E., Milwaukee
Gessler, Roy E., Madison
Hackbarth, Donald A., Milwaukee
Lison, Nancy M., Green Bay
Salkowski, Henry J., Racine
Sister M. Franka Schruefer, Marshfield

U. S. POSSESSIONS

Cooper, Nathan, Ft. Clayton, Canal Zone
Sosa-Perez, Francisco, Toa Baja, Puerto Rico

FOREIGN

Shohet, Aron, Ramat-Gan, Israel

Deceased Members

Adamic, Gustave H. (a life member), Chicago, Ill.
Applin, George F., Philadelphia, Pa., Jan. 31, 1950
Berger, Herman S., New York City, latter part of 1949
Curry, Gordon L., Louisville, Ky., Jan. 21, 1950
Earl, Noble C., Lake Worth, Fla., May 31, 1949
Epstein, Albert K., Chicago, Ill., Dec. 1948
Glenn, George F., Altantic City, N. J., Oct. 19, 1949
Winne, Arthur L. I., Richmond, Va., Feb. 3, 1950

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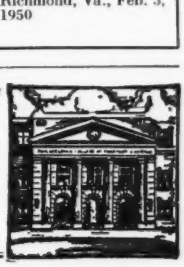

Cortisone and ACTH

. . . . . from p. 173

CURRENT DISTRIBUTION

ACTH and cortisone were originally distributed to qualified investigators without charge, the former by the Armour Laboratories and the latter through a committee of the National Academy of Sciences. Since January 1, 1950, Merck & Co. has assumed responsibility for distribution of cortisone. While both companies are continuing the policy of distribution to qualified investigators, a charge is now being made for supplies of the drugs furnished.

In the present state of our knowledge it would be extremely undesirable to permit the widespread use of these potent preparations in the routine practice of medicine, and it is perhaps fortunate that neither drug is now available in unlimited quantities. Because of the limited amounts of both drugs presently available, their use must be restricted to those instances where they will aid in the understanding of the mechanism of a disorder.

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FOOTE NAMED RHO CHI PRESIDENT

Dr. Perry A. Foote, dean of the University of Florida College of Pharmacy, has been elected national president-elect of Rho Chi, honorary pharmaceutical society, by mail ballot.

Dr. George L. Webster, president of the society, will install Dean Foote for a two-year term at the close of the 1950 National Convention to be held in Atlantic City early in May.

Other officers of the society include Dr. Paul J. Jannke of the University of Connecticut College of Pharmacy, vice-president; and Executive Council Members: Dean Alvah G. Hall, University of Southern California; Dean Thomas D. Rowe, Rutgers University; and Dean H. G. Hewitt and Dr. A. E. Schwarting, both of the University of Connecticut. Dr. Roy A. Bowers, dean of the University of New Mexico College of Pharmacy, serves as secretary-treasurer of the society.

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* Patent applied for.

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